.

Today, in India, a country marked by poverty and widespread lack of access to basic services such as healthcare and education, one essential service has reached the vast majority of people, even in the most backward regions: namely, telecom. Votaries of the prevailing economic policies claim that it is thanks to India's private corporate sector that mobile telephony is available at such low prices, and has achieved such wide coverage.

This article looks behind this low price. It finds a history of the State providing a range of subsidies and gifts to the private corporate sector, even as the latter violates or manipulates State regulations with impunity. It finds that telecom firms initially developed in a chaotic and wasteful fashion, engaging in resource capture and speculation rather than building an industry for the long term. Later, the field has been reduced to just two or three firms, through massive use of finance. Through their control of the telecom market, these firms hope to control much more. Despite deploying these vast resources in capturing the market, the leading firms have failed to build a domestic technological base, and continue to be heavily dependent on imports – three decades after liberalisation.

Through the story of telecom, the author tries to provide insights into the specific features of India's private corporate sector, which he terms 'Indian monopoly capital'.

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Indian Telecom's Spectacular Rise

and the Nature of Monopoly Capital in India

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Rahul Varman

***Aspects of India's Economy*, no.80**

RESEARCH UNIT FOR POLITICAL ECONOMY

To our readers

India's private corporate sector is more prominent today than at any time in the past. Its chieftains are listed among the richest persons in the world. The Indian government's growth plans now explicitly centre on the country's largest firms, with the aim of creating a few 'national champions' capable of competing globally. A research report regarding the house of Adani shook the Indian markets, and became a national political issue.

In this special issue, Rahul Varman looks at the development of the telecom sector, with a broader question: What does it tell us about the character of India's big capitalist class?

The first phase of the post-1991 telecom development was not one of industry-building. Rather, it was a story of *resource capture* and wild financial speculation. The critical natural resource (spectrum) was captured by various firms, with credit from public sector banks and speculative investment from foreign and domestic big capital. Manipulating or capturing State agencies was key to annexing resources at low prices. As is characteristic of speculation, some firms/investors struck it rich, some lost money, all in a chaotic and wasteful manner.

The second phase was of *capture of market share* through the use of massive financial clout. The only product differentiation was in price; hence market shares would go to the firms with largest financial clout to wage cut-throat price-wars. Once Reliance had captured the largest market share, it drew down its mammoth debt by selling off large chunks of Jio to foreign firms. While centralisation of capital in the countries of classical capitalism took place through a combination of two processes (one, the economies of large-scale production and two, the credit system, i.e., finance), in the case of India's telecom it was solely a financial operation. International finance capital has large stakes in India's leading telecom firms. The firms' massive financial clout, however, was not deployed to create an independent technological base. After three decades the industry remains heavily dependent on imports of know-how, even for handsets.

The telecom industry has been reduced to just two or three firms, with hardly any competition among them. Throughout, instead of the State agencies regulating the firms, it is the firms which have regulated the State agencies according to their needs.

We hope readers take the time to read this detailed study to get a concrete sense of the character and operations of India's monopoly capitalist class.

-- The Editor

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It aims to compile, analyse, and present information and statistics so as to enable people to understand the actual mechanics of their everyday economic life. And, in this, it aims to take the assistance and insights of people engaged in every sphere of productive work and society.

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Contents

Indian Telecom's Spectacular Rise and the Nature of Monopoly Capital in India

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Indian Telecom's Spectacular Rise and the Nature of Monopoly Capital in India

-- Rahul Varman[1]

1. Introduction

The remarkable success of the telecom industry[2] in India in the past three decades, led largely by big capital, may be the biggest achievement of which the ruling classes and their representatives – across the ideological and political spectrum – can boast. We see a phone in virtually every hand, cutting across class, caste, community, age and gender divides. The mobile phone appears to be the only thing that unites India today; observers term this a 'miracle'.[3]

The indispensability of the mobile phone was starkly underlined during the worst days of the Covid-19 pandemic, when people's lives seemed to hang by their phones, for oxygen, medicine, food or even education. For the State, and indeed even for the alternative communities that were spontaneously formed during the worst phase of the crisis, it appeared that the only means to almost any end was a phone and its 'connectivity'.

1 Extensive comments and helpful suggestions from Manali and RUPE editors on earlier drafts are gratefully acknowledged.

2 Unless otherwise specified, by 'telecom' throughout in this article we mean cellular telecommunications.

3 S. Biancini, "Behind the scenes of telecommunication miracle: An empirical analysis of the Indian market," *Telecommunications Policy*, 35, pp. 238–249, 2011.

The ruling class's political claims in this regard are exemplified by a remark of the then Home Minister P. Chidambaram in 2010. When the minister was speaking at the Jawaharlal Nehru University (JNU) on 'Naxalism', a student reminded him that an official committee report[4] released by his own government in 2009 had revealed that 77 per cent of the nation lived on a mere Rs 20 per day per head (in 2004-05 rupee terms). Dismissing this finding, Chidambaram quipped, "If that is so, how can India have 60 crore mobile phones(?). This is a simple parameter to negate the report. I am sure I can help you being a better economist."[5]

Mobile connectivity appears to have reached almost every nook and cranny of the nation at unparalleled speed. People may have little access to health services, open defecation may remain a common sight in spite of numerous campaigns against it by successive governments, large numbers of the common people may lack access to potable tap water; but mobile phones have reached more than 88 per cent of the population, and a 4G phone could be bought for as little as Rs 500 in 2020. The Telecom Regulatory Authority of India (TRAI) highlighted the fact that the cost of a GB of wireless data, which was nearly Rs 270 in 2014, had fallen to as low as Rs 12 in 2018, possibly the world's lowest price for data. One needs reminding that barely 25 years ago, in 1994, mobile calls cost Rs 18 a minute, and a mobile phone was priced at Rs 40,000, obviously a luxury accessible only to the well heeled at that time.[6]

And so we are told that for almost everything that matters in life – communication, social media, information, entertainment (television, films or music), as well as for vital services such as commerce, banking, education, health, transport, food delivery, tourism, etc. – one needs a mobile. Indeed, even to access 'subsidies' such as midday meals and liquefied petroleum gas (LPG), one needs a mobile.

We are also told that this success is primarily because of the spirit of

4 The report of the National Commission for Enterprises in the Unorganised Sector (NCEUS), headed by Arjun Sengupta.

5 Chidambaram invites JNU girl over for tea, *Indian Express*, May 6, 2010. http://archive.indianexpress.com/story-print/615866/ accessed on 15/09/2022.

6 Surajeet Das Gupta, "25 years since the first mobile call: Roller-coaster ride for telecom," *Business Standard*, July 24, 2020. https://www.business-standard.com/article/companies/25-years-since-the-first-mobile-call-roller-coaster-ride-for-telecom-120072301886_1.html accessed on 15/09/2022.

enterprise of private capital. Private capital has achieved this, it is claimed, in spite of the actions of bumbling and corrupt governments, out to kill the goose that lays the golden egg, and in spite of the orders of ill-informed courts. (Such reports are routine: take, for example, the media coverage of the 'unfair' Adjusted Gross Revenues [AGR] dues claimed by the Government, the Vodafone tax dispute, or the so-called 2G scam). We are also told that this telecom miracle is being led by 'Indian' companies – Jio, Airtel, Idea –thus exemplifying the Government's 'Atmanirbhar' (self-reliant) agenda and the 75 years of Independence that the nation is said to be celebrating.

In this article an attempt is being made to dig deeper into the three decades of purported telecom miracle and ask a larger question: *What does this extraordinary success of the telecom industry tell us about the nature of monopoly-finance capital in India?* The analysis is divided as follows: in part II, we examine the motivations and actions of big business in Indian telecom over the years; in part III, we analyse the relations between India's monopoly capital and the Indian State; and in part IV we look at the endgame of the three-decade-long privatisation of the telecom industry and its capture by monopoly capital. In conclusion, we make four overall arguments:

1. Over the course of the last 25 years, during which the telecom market has eventually been divided among two or three remaining operators, State bodies have hardly been able to hold telecom firms accountable or protect the public interest in relation to them. Instead, the State has often allowed monopoly capital to operate without regulation, and at times actively intervened in favour of particular firms. It has ensured they receive public sector bank credit and provided them Government subsidies.

2. Individual firms have nevertheless often been in crisis, due to their own manner of operation. In the course of their bankruptcies and consolidations, there has been a massive waste of resources; consumers have suffered sub-par quality of service; and employees have periodically suffered huge job losses. On the plea of crisis, firms have frequently sought (and received) returns by means other than their telecom operations, such as Government subsidies and tax breaks, or speculation in telecom licenses and spectrum.

3. Regardless of the appearance of domestic strength, India's telecom

industry has increasingly come under the sway of international finance capital, and its development is determined to a considerable extent by the specific and limited interests and logic of the latter.

4. Finally, a striking feature of this vast capital-intensive industry being nurtured with huge Government support is the abysmal lack of indigenous know-how and the absence of robust manufacturing base in India. This becomes even more conspicuous if we compare it with the Chinese telecom industry, which was perhaps even less developed than India's in the 1980s, but has reached a very different level today in terms of indigenous know-how and development of manufacturing prowess.

II. The Motivations and Actions of Big Business in Each Phase of Telecom Development[7]

For two decades, India's telecom industry was marked by a continuous stream of entries and exits by Indian and international big capital. Almost every big Indian business house, and some of the largest firms internationally, entered the telecom industry in India in the last three decades; most exited as well.

The Government opened up the sector for private capital in the wake of the 'new economic policy', which followed India's balance of payments crisis in 1991 and its 'structural adjustment' loan from the International Monetary Fund (IMF) that year. Cellular services started in all the four metropolitan cities in August 1995, with two operators in each city. In the 25-odd years since then, almost 30 large clusters of corporate actors entered (the actual number of legal entities would be significantly higher, as industrial groups formed numerous companies with complex ties and corporate structures in order to corner telecom licenses).[8] Most remarkably, almost all of these earlier entrants have disappeared since, with Bharti Airtel[9] being possibly the *only* exception. (In the 1990s Airtel was just a fledgling manufacturer of push button phones, hardly a part of big capital in India.)

7 Primarily based on this part, a shorter piece as an argument on monopoly capital under neoliberalism is being carried by *Monthly Review* in one of their forthcoming issues.

8 The data are drawn from media reports too numerous to cite here, and from databases created by the author.

9 Airtel is equally owned by the Bharti group and Singapore Telecommunications – SingTel.

In 1995, license auctions were held for the remaining 19 circles,[10] and by 1997 many of India's largest business houses, such as the Tatas, Aditya Birla, Modi, Goenka, Thapar, Escorts, Essar, and Max had entered the telecom industry. The wealthiest Indian-origin business groups abroad, such as the Hindujas, followed suit, and groups such as the (then undivided) Reliance and Videocon entered during the closing years of the 1990s.

All the Indian groups had foreign partners: the Government clearly recognised that none of the Indian private entities had any experience in running a telecom service, and hence a foreign partner (with maximum ownership of 49 per cent) was mandatory. In this fashion, a large number of global telecom corporations got entry into the domestic market. Some notable names included AT&T, NTT (Japan), France Telecom, Telenor, Swisscom, Bell, Hutchison Whampoa, Telstra, SingTel, and Telecom Malaysia. All these came in through waves of collaboration in the late 1990s and then in the latter half of the first decade of the 21st century. Among the international entrants, almost all have exited. Vodafone is the only exception, continuing its operations at present, though no longer with its original partner, the Indian house of RPG.

The conventional account of this process is that, while many corporate houses tried their hands at the telecom sector, most burnt their fingers; only a few could survive, either because of the 'peculiar' nature of the industry, or 'bad' Government policies, or both.[11] However, even as a spate of big business houses exited after making an early entry, new firms continuously made attempts to enter too. How do we explain this?

In this section we highlight what appear to be some key motives for the persistent attempts by big business to enter the sector; their conduct after entry; and the fallout of these motives and actions. The argument here is based on certain patterns that can be seen across business groups over these years. For the sake of brevity, we will refrain from placing all the evidence collected, but certain notable examples will be discussed as illustrations for the argument being made here.

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10 In the early years of liberalisation, India was divided into 23 circles (4 metros and 19 others) for the purpose of telecom services and licensing, broadly, but not exactly, on the lines of state geographies, keeping also in mind the population to be served. Later Tamil Nadu and Chennai were merged into one circle, reducing the total to 22 circles.

11 This will be discussed in Part III.

1. Not Seeking to be Strategic Investors but Middlemen and Speculators

The telecom sector in the 1990s was a capital-intensive industry, marked by rapid technological development. India largely lacked the requisite ecosystem of equipment manufacturing base and know-how. Returns from telecom operations would be possible only if an investor were willing to make long-term investments and build the requisite competitive capabilities.

But in reality, almost none of the private domestic firms in this initial phase seemed interested to become strategic investors and build the capabilities required for a 'sunrise' industry. Their role appears to have been that of merely cornering licenses and acting as mediators between foreign firms and the Indian State as well as other domestic actors. The predominant motive of the Indian investors in the telecom sector seemed to be to get quick windfall returns, treating their telecom ventures as merely one more investment in their portfolios, which spanned many and varied industries.

Predictably, most of them exited as soon as they found appropriate bidders, both domestic and international, to whom they could sell their stakes. This process was facilitated by the progressive liberalisation of the foreign direct investment (FDI) regime by the Government during this period.[12] With the benefit of hindsight, it appears that the entire game plan of the domestic firms was to corner licenses and the critical limited resource of spectrum (discussed in the following subsection), and wait for the right moment and price to sell the license/spectrum to the highest bidder. There did not seem to be any genuine attempt to build institutions that could be competitive and sustainable globally, or even nationally.

This pattern began immediately after the entry of private firms in the industry. In 1996 itself, reports emerged that it was 'clear' that most of the licensees operating in the 23 circles did not have 'viable' business models.[13] It was reported that at least eight of them were accumulating huge

12 In the 1990s, FDI was limited to 49 per cent in telecom sector; in 2005 it was raised to 74 per cent; and 100 per cent FDI became permissible in 2014. But even before the limits were raised, the Government turned a blind eye to the flouting of these requirements - more on this in Part III.

13 '25 years since the first mobile call', *op. cit.*

losses, with revenues not even matching their annual license fees outgo. Predictably, there were complaints that the Government was charging 'unfair' and massive license fees.[14] Notably, these complainants were some of the largest Indian business houses and their global telecom collaborators.

This has been a consistent pattern across the entire period – companies not paying up contracted license fees, and then bitterly complaining that the Government was unfair in demanding dues. (Of course, if a hapless woman labourer accepts work for less than minimum wages on a construction site in the nation's capital, we are told by the establishment that she accepted it with 'open eyes' – it is a 'contract'.) By 1998, the telecom industry was reporting a Rs 400 crore negative cash flow (profits before depreciation, but after interest and tax) a month. Telecom firms demanded concessions on the ground of 'national interest': "we will have the sector passing into the hands of *foreigners*. That has not happened even in advanced economies. Telecom is as critical to a country as its defence sector. It has to be in *our* hands" (emphasis added).[15]

Ironically, though, almost immediately after they had begun operations, most Indian telecom operators had either already given up control to foreign interests, or were actively looking for foreign buyers. The Ruias of the Essar group, Analjit Singh of Max India and BK Modi of Modicorp had reportedly already given up majority equity control in their cellular ventures. Let us take the case of Modicom Networks, the cellular licensee in Punjab and Karnataka at the time. Promoter BK Modi floated a holding company, Modi Welvest, to finance his 51 per cent stake in a telecom firm. He then sold 49 per cent of his stake in Welvest to the American International Group (AIG)[16] (at a reported premium of 40 per cent) – which meant that the effective stake of the Modis in the licensee company came down to 26.01 per cent (51 per cent of 51 per cent).[17] Around the same time Shyam Telecom made a similar attempt to sell its stake to Telesystem Mauritius

14 At this point spectrum was bundled along with the license.

15 "Takeovers In Disguise", *Business Standard*, April 13, 1998. https://www.business-standard.com/article/specials/takeovers-in-disguise-198041301075_1.html accessed on 18/09/2022.

16 A US-based firm, one of the largest financial and insurance companies in the world.

17 "DoT May Allow Holding Firms In Cellular Services", *Business Standard*, September 20, 1996. https://www.business-standard.com/article/specials/dot-may-allow-holding-firms-in-cellular-services-196092001273_1.html accessed on 18/09/2022.

for Rajasthan operations.[18]

Even starker is the case of Hutchison Whampoa (Hong Kong's largest investment group). It acquired control of Mumbai cellular operator HutchMax Telecom in 1998 by effectively raising its stake to 68.6 per cent. Mumbai, at the time, was the most developed telecom market in the country, and notably, the permissible limit for FDI was only 49 per cent. The investment route of the Hong Kong telecom operator was to acquire 49 per cent directly in HutchMax, and a further 49 per cent in Telecom Investment India, which held 40 per cent in HutchMax. Kotak Mahindra held a 51 per cent stake in Telecom Investment India. The remaining 11 per cent in HutchMax was owned by Max India and its promoter Analjit Singh.

Similarly, Swisscom, a telecom arm of the Swiss government, also gained a majority stake and management control in Sterling Cellular, which held cellular licences in Delhi, Uttar Pradesh (East), Haryana and Rajasthan. In a structure similar to the HutchMax deal, Swisscom raised its stake from 33 to 49 per cent directly in Sterling Cellular, and also picked up 49 per cent in another Indian company that held 3 per cent in Sterling. As the chief of a northern cellular company grudgingly admitted: "All the sops that the industry is asking for is to improve the selling price and fatten the operating profits of the (international) buyer." The same 1998 story also reports that other operators lined up for similar manoeuvres in the name of 'swadeshi': JT Mobiles, Koshika Telecom, BPL, Skycell, Fascel, and the list goes on![19]

One of the fallouts of such manoeuvres was that, almost immediately after the Indian telecom sector was opened up for the private players, the invisible hands of international finance were everywhere. For instance, in 1997 itself it was reported that Hong Kong venture capital company Distacom Communications was aspiring to become 'one of the largest players' in the Indian cellular services sector. According to the Chairman of Distacom Richard Siemens, the value of Distacom's telecom holdings worldwide[20] were around $1 billion at the time, which, he hoped, would appreciate to $5 billion in five years. Distacom held 20 per cent in Hutchison Max

18 *Ibid.*

19 "Takeovers In Disguise", *op. cit.*

20 Four in India and one each in Japan and Hong Kong, India being the largest.

Telecommunications.[21] It held 25 per cent of Calcutta cellular operator Modi Telstra, a joint venture between Australia's Telstra and India's Usha Martin. And it held 39 per cent in Modicom Networks, a joint venture between India's Modicorp and Motorola, which had licences for Punjab and Karnataka. Distacom in turn was 30 per cent owned by the government of Singapore, 20 per cent by investment house Lazard Frères, 10 per cent by Peregrine Securities and the rest by individuals, including Italy's Gianni Agnelli, principal shareholder of Fiat.22 Similarly, around the same time, AIG had a number of telecom investments in India - Tata Teleservices, Tata Communications, and BPL Mobile, besides Modicom Networks as discussed earlier.[23]

Thus in the early years itself there were complex manipulative tactics, such as selling off licenses, changing brand names, and mergers and acquisitions, used by some of the largest firms – Hutch, BPL, Sterling, etc. And if none of these dubious methods worked, or if good prices became available, a quick exit from the industry could be made. Such was the route taken by Koshika, RPG, Usha Martin, Spice-ModiTelstra, Skycell, Escotel, JT Mobile, Fascel – the examples are too many to be cited here. And huge money was made through such operations. As a recent *Business Standard* story says, "the smart boys to hit the jackpot" included the Ruias of Essar, Ajay Piramal of Piramal Enterprises, Analjit Singh of Max group, Rajeev Chandrasekhar[24] of BPL Mobile, the Hindujas, Nandas of Escorts as well as B K Modi and Shyam groups, and even professionals like former CEO of Vodafone India, Asim Ghosh.[25]

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21 Most likely this stake was sold within a year, as by 1998, HutchMax had a different holding structure as reported earlier in this subsection.

22 Sanjit Singh, "Hks Distacom Bets Big On The Cellular Front," *Business Standard*, June 24, 1997. https://www.business-standard.com/article/specials/hks-distacom-bets-big-on-the-cellular-front-197062401104_1.html accessed on 19/09/2022.

23 "Winners And Losers", *Business Standard*, December 27, 1997. https://www.business-standard.com/article/specials/winners-and-losers-197122701104_1.html accessed on 19/09/2022.

24 Now a minister in the Modi cabinet.

25 Surajeet Das Gupta, "When telecom stood for pass to windfall gains, and not financial Stress," *Business Standard*, November 27, 2019. https://www.business-standard.com/article/economy-policy/when-telecom-stood-for-pass-to-windfall-gains-and-not-financial-stress-119112601527_1.html accessed on 19/09/2022.

2. Cornering Spectrum and Licenses Along the Lines of Real Estate

Perhaps a key reason for intense corporate traffic in the telecom industry is the central position of a natural resource like spectrum. Telecom signals are electromagnetic waves that can travel only through the channels of spectrum, the bandwidth of radio frequencies assigned to a service provider. Spectrum is the path on which signals travel, very much like an automobile travels on a highway. Hence, without access to spectrum, there can be no mobile telecom service. But spectrum is a natural resource, like land, which cannot be produced, and hence is available in a limited quantity, and that too only from the State. It is, therefore, a coveted resource for the telecom industry. Just as a lot of money can be made merely by trading in land, if it can be cornered at a 'good' price and there are buyers looking for it, so too with spectrum.

This has been the case in India so far, as the demand for spectrum has been exponentially increasing due to the ever-widening consumer base, new services being added and new generations of technology, from 2G to 5G, appearing in quick succession. No wonder so much of the media coverage of the industry has been consumed by debates and discussions around the 'selling' and pricing of spectrum. The spectrum charges have to be paid to the State, much like taxes,[26] and hence much of the debate has been around the spectrum pricing, or more specifically the mechanism for 'price discovery' in a 'free market'. In the free market envisioned by Adam Smith, there are enough buyers and sellers to ensure no individual can influence the market, and information is supposedly freely available. Hence prices are 'discovered' in the market, as all participants are only price takers (and not price makers). But in the case of a limited resource such as spectrum, with only one seller and a handful of buyers, the whole enterprise of finding the right price has been fraught with serious consequences for various interests. Hence it has given rise to a whole industry of lobbyists and experts, first to facilitate cornering of spectrum at the lowest

26 Much noise is generated when a price, fee or tax is charged by the State, especially to big business. But when the same good/service is sold by the private sector, price rises affecting consumers are assumed to be inevitable, as if governed by natural forces. Witness the debate around spectrum prices versus, say, the absence of discussion of the steep jumps in electricity prices over the years as the power sector was progressively privatised.

possible 'effective' price,[27] and then speculating in the cornered spectrum at the right time, with the right suitors.

From the very beginning, spectrum allocation has been in the news for these very reasons. To begin with, spectrum was bundled with the license for telecom services in a particular circle. In the first round of telecom licensing for the 19 circles across the country, auctions were held in early 1995. Service providers had to pay annual license fees plus charges for spectrum usage. But immediately the process got into a controversy as Koshika Telecom, a company with an annual turnover of mere Rs 228 crores, won bids for several licenses worth Rs 57,000 crores (250 times its turnover!).[28] After vehement protests by the competing bidders, the rules were hastily redrawn and another auction was held.

This tactic was even extended in the auctions for the licenses in basic telephony, where no spectrum was involved, as these licenses were supposed to be for fixed line connections. In the same year, (1995), Himachal Futuristic Company Limited (HFCL),[29] a small telecom equipment manufacturer in partnership with Bezeq, an Israeli government-controlled company, won nine licenses for fixed line services. The bids, totalling a whopping Rs 85,000 crores, were won by HFCL, while its turnover was apparently less than Rs 100 crores! Some of the HFCL bids were around five times those of the next highest bids quoted by groups such as the Tatas and Reliance![30] This time around, the bids were not cancelled, but new rules were added *post hoc*, and no company was allowed to retain

27 Even when operators have bid relatively high sums for spectrum/license, they have ended up either not paying at all or progressively seeking and getting concessions from the Government, as we will discuss in Part III.

28 S Gopal, "The History of Telecom Spectrum in India: The 900MHz Auctions," *Gadgets360*, July 31, 2016. https://gadgets360.com/telecom/features/the-history-of-telecom-spectrum-in-india-the-900mhz-auctions-827495 accessed on 20/09/2022.

29 HFCL has been in the news in later years too - in 2010 as a front, through a related company, for Jio to acquire countrywide spectrum (dealt with below), and even more recently in 2022 as a front for Reliance ownership of the media company NDTV.

30 Aditi Roy Ghatak and Paranjoy Guha Thakurta, "2G spectrum: How the big telcos got away with murder," *Firstpost*, June 01, 2012. https://www.firstpost.com/business/2g-spectrum-how-the-big-telcos-got-away-with-murder-328459.html accessed on 20/09/2022.

more than three licenses for the Type A Circles,[31] thus effectively awarding HFCL three licenses in spite of the glaring concerns about its credibility.

Two features need to be noted in these early sets of bidding that set the pattern for the years to come. Firstly, there seemed to be a gold rush in the telecom sector, and it was assumed that there were plenty of quick bucks to be made. And secondly, the gains were *not* to be made by building competitive institutions and capabilities. Rather, windfall gains were to be made by cornering spectrum through manipulations, and then speculating in license and spectrum, selling to the highest bidder.

The speculative (and quick money-making) nature of this whole enterprise is illustrated by the so-called '2G scam'. A lot has been written on the issue and hence we will be brief and highlight only the key issues that are relevant to our argument.[32] Spectrum allocation in 2008 captured the attention of the whole nation after the Comptroller and Auditor General (CAG)'s 2010 report provided three estimates of the loss to the exchequer due to the purported scam, the highest of which was Rs 1.76 lakh crore. This is a humongous amount even 15 years later, and even at the scales involved in the telecom sector. The case involved giving away 122 licenses in 2008 at 2001 prices, on a first come first serve (FCFS) basis. This was clearly unjustifiable, as in 2001 there were barely 4 million mobile subscribers, whereas by the time of the 2G spectrum auction/license allocation, the number of subscribers had multiplied by 75 times to 300 million. So much for 'price discovery'! The CAG report brought out in great detail that the allocation did not even follow FCFS – several capricious deadlines were set, and other conditions were changed arbitrarily for seemingly no other reason but to favour certain parties. Tellingly, out of the 122 new licenses awarded, 85 were to parties that did not meet even the Department of Telecom (DoT)'s *own* eligibility criteria.

Significantly, some of the corporate actors with the richest hauls of licenses in the scam were basically real estate companies. If the whole game

31 Circles across the country were divided into A, B and C categories, based on their commercial potential. This time the bids were not cancelled, allegedly because HFCL was close to the then communications minister Sukh Ram.

32 For more details and to reflect on how brazen the State-monopoly capital combine can be even in a high profile case like telecom licensing, see: Paranjoy Guha Thakurta & Akshat Kaushal, "Underbelly of the Great Indian Telecom Revolution," *Economic & Political Weekly*, December 4, 2010, vol. xlv, no. 49, pp. 49-55.

of telecom licenses and spectrum was merely a form of property speculation, as we have argued above, it is unsurprising that real estate firms extended their skills to a new domain where even more money could be made. Notably, this was taking place over a decade after the first set of telecom companies complained of the lack of a market in India, exorbitantly priced spectrum and excessive Government levies, with the aim of obtaining a Government bailout. These pleas in turn led to the National Telecom Policy 1999 under the then NDA regime.[33]

For instance, Unitech, one of the largest real estate companies in the country at that time, bought 22 licenses for a sum of Rs 1,651 crore in 2008. And within months it offloaded 60 per cent of its purported telecom arm's stake to Telenor (of Norway) for Rs 6,200 crore, an appreciation of more than six times! These transactions can only be termed as speculation in telecom license and spectrum. Similarly, Swan Telecom, promoted by another real estate company, DB Realty, obtained its license for Rs 1,537 crore; it immediately sold 45 per cent of its shares to Etisalat (of the UAE) for around Rs 4,200 crore. Likewise, Shyam Telecom sold shares to the Russian firm Sistema at a massive profit. Further, companies such as Swan, Loop and Datacom, each of which cornered a large number of licenses, were fronting for established corporate groups such as BPL, Reliance and Videocon. In some cases they were doing so illegally, as the rules stated that only one company from a group could bid for a circle. As a result, in some circles spectrum was allocated to more than 12 companies, clearly an unsustainable proposition, given both the limited market in terms of purchasing power, and the capital intensity and know-how required to establish a reasonable telecom service.[34]

What followed were irrational price wars and the exits of several operators. Some of this will be discussed in the next subsection. Due to the furore created about the scam, the Supreme Court in 2012 declared the 2008 allocation to be null and void, cancelled all 122 licenses, and ruled for a fresh license and spectrum allocation. But by this time many of the Indian bidders had made huge profits. Meanwhile many of the new investors lost massive investments, and could not survive all the price undercutting and

33 More on this in Part III.

34 The deck for such irrational doling of licenses was cleared in 2005 by removing the maximum number of players in a circle, which till then was four.

dubious dealings.

The story of the acquisition of spectrum and licenses in 2010 by what has now become India's largest telecom company, Reliance Jio, is in some ways very similar, and in significant ways starkly different. In brief, two issues are relevant for our purpose.[35] Firstly, a small broadband service provider company, IBSPL, fronted for Reliance and acquired countrywide spectrum. Secondly, the license to provide internet services was later converted into a license for full-fledged provision of mobile services. Perhaps it is the latter manoeuvre (which was not even allowed in 2010), or maybe the combination of the two, that caught competitors unawares, and they failed to counter this decisive move of Reliance.

At the time it entered the auction, IBSPL was a tiny company providing internet services, with paid-up capital of a mere Rs 2.51 crore, a net worth of Rs 2.49 crore, and just a single leased line client, from which it earned Rs 14.78 lakh. Even its holding company, IDPL, had similarly ordinary numbers. Nevertheless, IBSPL managed to meet the financial requirements for bidding – an earnest money deposit in the form of a bank guarantee worth Rs 252.5 crore, a hundred times its net worth. More importantly, IBSPL won bids and acquired 20 MHz 4G spectrum for all 22 telecom circles for Rs 12,848 crore – 5,000 times its net worth! Meanwhile, on the same day, June 11, as the bids ended, at an extraordinary general meeting of its shareholders called at short notice, IBSPL raised its authorised share capital by 2,000 times, from Rs 3 crore to Rs 6,000 crore. It did this by issuing 75 per cent of its shares to Reliance, making itself a subsidiary of the latter. Within about a week, IBSPL ceased to be a private company and converted itself into a public limited company. In January 2013, the company was renamed *Reliance Jio Infocomm Limited*.

By 2012, the Government had come out with a framework for a Unified License regime which made possible the migration of internet service providers (ISP) into full-service operators offering voice services. (With the new convergence technologies, voice calls could be made through data packets as well.) Reliance was the first one to take advantage of this policy, and it converted ISP licenses into unified licenses. These unified licenses formally authorised Reliance to provide voice services by October 2013,

35 Other important details could be found in "The Immaculate Conception of Reliance Jio," Paranjoy Guha Thakurta and Aditi Roy Ghatak, *The Wire*, March 4, 2016, https://thewire.in/tech/the-immaculate-conception-of-reliance-jio accessed on 23/09/2022.

by paying the requisite conversion fees.

Originally, the Government's idea was to auction 4G licenses for broadband Internet services, while 2G/3G were to be used for voice services. But with this new unified license and the backdoor entry of Reliance, courtesy the IBSPL manoeuvre and the availability of new convergence technologies, Reliance upended the whole game for its competitors. (More on this will follow in Part III below.) By any criterion of regulation, IBSPL's fronting for Reliance should not have been allowed by the competent authorities. Indeed, a draft report of the CAG in 2013 passed severe strictures against Reliance and the concerned government bodies. It also estimated a huge loss to exchequer, which most likely was an underestimation: had the competitors known that it was Reliance that was bidding for the spectrum, that too for mobile services, perhaps the whole game would have been played very differently. But that eventuality is only in the realm of speculation now. Predictably, the final CAG report tabled in the parliament significantly watered down the whole affair.

The handful of more notorious cases discussed above are not really exceptions. As has been asserted earlier, this has been the pattern through three decades of telecom licensing and spectrum allocation. Guha Thakurta and his associates have followed many such exercises and presented numerous detailed stories.[36] What they have found is a long list of irregularities that might have cost the exchequer many lakhs of crores of lost revenues. Among them: (1) arbitrary pricing, (2) crossover from one kind of license to another, (3) allowing parties to sell stakes, making licensing policy of little consequence, (4) forcing the public sector BSNL to provide its infrastructure to these new operators for providing services through intra-circle roaming – thus, these new licensees could start getting subscribers and providing services without rolling out their network, and then could sell off their licenses, (5) allowing sharing, pooling and trading of spectrum, like any other commodity, (6) even more egregiously, allocating companies double the spectrum they had paid for, (7) and of course evidence of strategic bidding by the actors with tacit understanding, thus gaming the whole system, as the number of players drastically went down. Moreover, the licensing regime has been progressively liberalised, making

36 For the sake of brevity, we are not citing all the sources here, but see for instance the four-part expose, "2G spectrum: How the big telcos got away with murder…" *op. cit*.

the earlier round of rules and regulations irrelevant and thus rendering the whole exercise a farce.

3. Eventual Monopolistic Hold over the Industry

The final outcome of the short-term manipulations of successive entries and exits of telecom players in India over three decades since the industry has been privatised is that there are just *three* private players[37] left, who have divided the vast market among themselves. There have been two distinct mechanisms through which the industry has reached the present monopolistic endpoint:

- Firstly, ongoing waves of consolidation among players; two of the three existing operators are clearly the outcomes of consolidation of numerous corporate entities.
- And secondly, undercutting of rival firms on the basis of unsustainably low prices. This is done mostly by new entrants in order to get a sizeable share of the market, resulting in a bloody internecine war and further consolidation, as a large number of players are not able to sustain this sort of cut-throat competition.

We will discuss both these patterns through specific examples in this subsection.

A revealing example of the pattern of consolidation in the Indian telecom industry is the 25-year journey of what today has become the third largest telecom company in India, Vodafone Idea.[38] On the surface, it represents a collaboration between one of the largest global telecom corporations, Vodafone, and one of the largest business houses in India, the Aditya Birla Group. However, the story starts much earlier.

The company started in the mid 1990s as a collaboration between one of the largest telecom companies in the US, AT&T, and the house of Birla, with a $300 million[39] offshore financing, the largest ever. It was to build the biggest cellular network in the country for the relatively prosperous

37 The public sector BSNL is left with less than 10 per cent market share and has increasingly become inconsequential in this game. More on it will follow in the next part.

38 This paragraph on Vodafone Idea is on the basis of a large number of news reports over the years; the references are available with the author.

39 At the current value of the time.

markets of Gujarat, Maharashtra and Goa.

Within a few years the house of Tatas had merged their telecom operations with this entity. Over another year it acquired the substantial operations of two more of the very successful and large operators, those of the RPG group and BPL, making it the largest telecom operator in the country. The consolidated corporate entity launched the new brand name of *Idea* in 2002 with a massive advertisement campaign. Within a couple of years, first AT&T and then the Tatas sold off their respective stakes to the Birlas.

Once Reliance Jio entered the fray in 2016, there was a further wave of consolidation. First Idea bought another large telecom company called Spice. Finally Vodafone India[40] and Idea came together in 2018 in the biggest telecom merger anywhere in the world. At the time of this merger they were number 3 and number 2 in terms of market share in India, and the combine became the largest Indian telecom company, with a subscriber base of 390 million.

But interestingly, all this consolidation does not seem to have relieved the long-standing troubles of the behemoth. In 2021 the company reported losses of more than Rs 44,000 crores, and a cumulative loss of around Rs 1.33 lakh crore over three years. Further, Vodafone Idea had a debt of Rs 1.9 lakh crore on its books, including Rs 1.68 lakh crore owed to the Government for unpaid license and spectrum dues (more on this in the next part).

Though not as dramatically as Voda-Idea, Bharti Airtel too has continued to expand through consolidation since its early entry in the telecom industry. One of the ways they have grown is to acquire several operators over the years - JT Mobile, Skycell, Spice and Hexacom during 1999-2004, WBSPL in 2012 and Augere in 2015. And finally in 2016-17, in the wake of Jio entering the market, it acquired the sizeable operations of telecom operators like Videocon, Telenor, Tata[41] and Tikona.

Telecom is a very capital-intensive industry, and technologies have been changing at a fast pace. The Indian operators have repeatedly tried to capture the widest possible market by investing in the latest technol-

40 Vodafone entered India market through buying what was Hutch Essar in 2007, one of the largest operators in the country.

41 So, part of telecom operations of the Tatas was subsumed in Vodafone Idea, and another part, owned by a different Tata group entity, was later subsumed in Airtel.

ogy, combined with sharp undercutting of prevalent prices. But, given the limited purchasing power of the masses, the latter strategy led to vicious price wars. We will explain this through two examples, both pertaining to the house of Reliance, over two different generations.

When the then undivided house of Reliance entered the telecom industry in early 2000s, it drew from its deep pockets (which it enjoyed due to its control of large petroleum resources) and invested in one of the finest networks of the time, with claims of pan-India optical fibre cable spread over 2 lakh route kilometres. In July 2003, it launched 'Monsoon Hungama',[42] selling a mobile phone for Rs 501 (at a time when prices for similar handsets were hovering around Rs 2,000), with free incoming calls to boot. Though this helped them achieve a substantial market share, it resulted in massive losses, and a write-off of Rs 4,500 crores in 2006. This price war brought down the tariffs for voice calls to just 40 paise a minute from the then prevailing rate of Rs 2 a minute. Reliance Communication (RCom) tried to repeat this strategy in 2006-07, but by this time the business house had been split between the two brothers, and the cash-rich monopoly of petroleum had gone to the elder brother, Mukesh Ambani. The result was that RCom's market capitalisation fell from a peak of Rs 1.7 lakh crore in 2010, when it had the second largest market share in the telecom industry, to a low of Rs 2,087 crore in February 2019. RCom filed for bankruptcy in 2019, with Rs 50,000 crores of estimated debt on its books; its assets were worth merely Rs 18,000 crores.

Six years after Reliance made its backdoor entry into telecom in the manner explained in subsection 2 above, the new firm Reliance Jio announced its grand entry into telecom services. It grandly claimed to be 'the largest 4G-only telecom network in the world', covering 18,000 cities and towns and over 2 lakh villages.[43] In a very unusual entry strategy, Reliance Jio kicked off 'test trials' of its 4G services from May 2016 by giving out

42 For the sake of brevity, the citations are not being provided here. However, some of the details can be found in "Now, Net-enabled phones for Rs 480 from Rcom," Rajesh S Kurup, *rediff.com*, December 31, 2007. https://www.rediff.com/money/report/phone/20071231.htm accessed on 04/10/2022.

43 More details on this grand entry of Reliance Jio can be found here: Anuj Srivas, "How Reliance Jio's Entry Tied Regulatory Knots Around India's Telecom Ecosystem," *The Wire*, January 13, 2018. https://thewire.in/tech/reliance-jio-telecom-regulation-trai-anil-ambani accessed on 05/10/2022.

SIM cards, apparently only to its employees and their friends and family. These restrictions were slowly loosened as the months passed, and by the end of August 2016, the company had anywhere between 2.5 to 3 million users without officially launching commercial operations. Then, in September 2016, the company announced its formal launch with a 'Welcome Offer' – a three-month period of free voice and data services. This was followed by a 'Happy New Year (HNY) offer' in December 2016 – an extension of free services. In February 2017, CEO Mukesh Ambani claimed that Jio had crossed the 100 million-subscriber mark – merely 170 days after its formal launch on September 5, 2016.

There were repeated complaints by competitors and their collective body, Cellular Operators Association of India (COAI), that this kind of predatory pricing would kill competition, but regulatory bodies kept passing the buck from one to another. Finally, they sought legal opinion, and in January 2017, the Attorney General Mukul Rohatgi ruled that "promotional offers are *not* subject to regulatory principles of non-discrimination, non-predation… in terms of the extant statutory rules…" But these sorts of 'freebies' continued under various schemes introduced in succession. The last in the series was called *Summer Surprise*, a roundabout way of giving customers another three months (April-June) of free services by having them pay in advance for data and voice services that they would use from July 2017 onwards.

Finally, the Telecom Regulatory Authority of India (TRAI) woke up from its purported slumber and "advised Jio to withdraw the three months of complimentary benefits…" Even J.S. Deepak, the secretary in the Department of Telecom (DoT) at that time, by all accounts close to Reliance, was forced to write against this sort of brazen 'bloodletting' in the telecom industry and its implications for Government revenues. According to him, Reliance's free data offers – and their consequent effect on the revenues of other operators – had cost the Government Rs 685 crore through the reduced collection of licence fees and spectrum usage charges.[44] He further added that this would have implications for the massive loans of the PSU banks to the telecom operators. Tellingly, within a week of this note, Deepak was transferred out of the DoT.

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44 *Ibid.* The company's impact on Government dues was much higher, as *The Wire* noted.

The freebies by Jio in 2016-17, and the earlier giveaway of the spectrum in the '2G scam', have been justified by some quarters on the grounds of providing 'cheap' services to the so-called masses. At the time of 2G scam, the then communication minister Kapil Sibal defended the Government by this logic. In May 2017 *The Wire* quoted the comment of additional secretary DoT, N. Sivasailam that revenue dips on account of licence fee, etc. (post Jio launch) should be seen as "incomes in the hands of consumers".[45] Data rates in India became among the lowest in the world after the entry of Jio. However, this led to many of the operators (including the company of the younger Ambani brother, Reliance Communication) failing or selling out. This was largely a consequence of Jio's decision to spend a massive sum, reportedly between $20 to 25 billion, in building a modern telecom network and then giving services free of cost to whoever signed up for a Jio SIM. Free services were provided over an extended period, more than a year, by which time much of the competition had been bled out of contention.

45 Of course the question that really begs for an answer is, then why not give the money directly in the hands of the consumers?

III. Big Capital Allowed to Default on State Dues and Regulations

The telecom industry, as we learnt from the discussion so far, was handed over to private capital, and over three decades came to be controlled by two or three operators. Meanwhile, it is repeatedly asserted that the role of the State is essentially to set up the policy framework and regulate the operators, as well as collect taxes based on that. From the discussion in the previous section, we already have an inkling of what happened with regard to policy and regulation over time under the emerging State-corporate combine. We will now specifically examine this issue through a few much talked-of cases.

1. The Never-Ending Saga of AGR Dues

The ongoing tussle on Adjusted Gross Revenues (AGR) is a striking example of State-monopoly capital relations in the telecom industry. Right after the initial 'gold rush' into telecom in the early 1990s, there were loud complaints that Government dues were unsustainable and unfair. This in spite of the fact that these dues were fixed with the licenses, and each of the operators had signed those conditions as part of its licensing agreements. As the initial mania subsided, the reality of the limitations of purchasing power in India and of the capital intensity of the telecom industry hit the operators, and some of them exited after making a quick packet by selling spectrum/licenses.

While these operators incessantly complained about the 'unsustainable-unfair' Government dues, they spent large sums on building/buying brands

and other marketing gimmicks. They hired film and cricket stars as their 'ambassadors', launched huge media campaigns and even invested in the Indian Premier League and sports teams.[46] It is apparent what is considered a 'necessary' expenditure by big business and what is not, and evidently paying Government dues comes last in the order of priority. Persistent nagging by the Government may yield some dues sometimes, but often business can get away without paying on time, or by pushing for policy 'tweaks'. For the rest, it can launch lengthy litigations, as this section will amply bring out.

In 1999, amid all these controversies, Prime Minister Vajpayee himself took charge of the Ministry of Communications, and his Government came up with the new National Telecom Policy (NTP-99). One of the important components of the new policy was the move to a revenue-sharing regime, in place of fixed license fee commitments from the operators, as signed under the initial contracts. Under the new regime, service providers had to pay 15 per cent of their *adjusted* gross revenue (AGR).[47] Over the years, yielding to relentless operator complaints, the rate has been brought down to 8 per cent of AGR. For the purpose of Government licensing dues, the 'Adjusted' Gross Revenue was to be revenues from all the streams of the operators, including their interest income and other income. Conceivably, this was done to prevent operators from offsetting one sort of revenue with another by manipulating accounts, and thus not paying the Government its dues, as has happened in many other instances (more on this in the telecom industry will follow later in this part).

But even after agreeing to the new licensing regime based on AGR, the private corporate firms first went to the Telecom Disputes Settlement Tribunal, then to different high courts, and finally to the Supreme Court, over what constituted AGR. Meanwhile they neither paid the dues nor made any accounting provisions for this unpaid amount. While the original amount due was only Rs 23,000 crore, by the time of the 2019 Supreme Court judgment the due amount had become five times that because of interest charges and penalties on the unpaid amount. As no provisions were made

46 There are numerous media reports to this effect, which we are not citing here.

47 The circle operators also had to pay spectrum usage charge. The government not only allowed the circle operators to migrate to the revenue-sharing model but also extended the licence period from 10 to 20 years free of additional costs.

in their books for these disputed amounts, their accounts for successive years looked much healthier than what they ought to have been, making them more lucrative for a buyer or investor. It also artificially shored up their stock prices, making the promoters much wealthier, independent of the health of their respective companies. As Purkayastha concludes, "So a big part of their dazzling success story was built on deliberately withholding legitimate dues on account of license fees, and hiding these obligations from their shareholders."[48] By 2021, as per Government calculations, the total AGR liabilities of some of the major defaulters were as follows: Bharti Airtel Rs 43,980 crore, Vodafone Idea Rs 58,254 crore, and the Tata group Rs 16,798 crore, though the latter had practically folded up their telecom operations many years earlier.

In these decades-long legal machinations, one question that never got asked was: *who was going to pay for the corporate entities which already had closed shop, with their promoters disappearing with the gains*? As we discussed in the previous part, many of the telecom operators have either folded up, or have lost their independent status (as they have been acquired by or merged with some other entity). The two largest such AGR dues are owed by RCom and Aircel, more than Rs 25,000 and Rs 12,000 crores respectively.[49] Now that they are in liquidation proceedings, no one wants to answer this uncomfortable question. All this while, the bulk of their respective spectrum has been passed on to the two largest operators in the country at present, RJio and Airtel, but of course neither of them has any interest in owning responsibility for these unpaid dues. Even more interestingly, while RCom and Aircel have cut deals with RJio and Airtel respectively for sharing their spectrum, they also claim that even though they have closed their operations, spectrum is their most valued 'asset' and hence should be allowed to do with it whatever they want. They seek this 'right' even as they have no money to pay the Government their dues of more than Rs 37,000 crores! In 2020, the question of responsibility for payment of the AGR dues was put up for the Supreme Court to answer,

48 Prabir Purkayastha, "Telecom: From License-Permit Raj to License-to-Loot Raj," *Newsclick*, December 6, 2019. https://www.newsclick.in/Telecom-From-License-Permit-Raj-License-to-Loot-Raj accessed on 11/10/2022

49 Another Rs 2,000 crores were due from relatively smaller operators, such as Videocon and others.

but it refused to rule and passed the buck back to the insolvency bodies.[50] This is how accountability towards and by the State agencies works when it comes to monopoly capital.

The idea that operators may manipulate their books to understate Government dues was not mere speculation. In a 2017 audit, CAG found that at that time six leading private telecom players had understated their revenues by over Rs 61,000 crore, depriving the exchequer of Rs 7,697 crore; with added interest dues, the unpaid amount came to more than Rs 12,000 crores. This revenue loss was for the five-year period 2010-11 to 2014-15 from Bharti Airtel, Vodafone, Idea Cellular, Reliance Communication and Aircel, and from SSTL for the 2006-07 to 2014-15 period. According to the auditor (and the licensing agreement), the telecom players suppressed revenues through accounting adjustments for commissions or discounts paid to distributors, promotional schemes like free talk-time, as well as discounts for users of post-paid and roaming services. They also understated revenue by simply excluding foreign exchange gains, interest income, sale of investment, miscellaneous revenue and profit on sale of fixed assets and dividend income from their reported aggregated gross revenue. Interestingly, the statutory auditors had all the while certified that the accounts were prepared 'in accordance with the guidelines/norms contained in the Licence Agreement'. One year earlier too, the CAG had indicated a loss of Rs 12,489 crore to the exchequer due to understatement of revenues by six telecom operators for the four-year period from 2006-07 to 2009-10. The CAG observed that even 17 years after the new regime was introduced, DoT failed to collect the licensing dues![51]

One persistent complaint by the operators, which is prominently carried by the business press as well, is that the Government is trying to kill the golden goose by pricing spectrum unfairly high and squeezing the telecom industry. BK Syngal, a veteran in the sector, who first headed the public sector VSNL and then RCom, and is obviously an industry insider, has

50 Dues of Insolvent Telcos: Paranjoy Guha Thakurta & Abir Dasgupta, "Is There a Loophole Favouring Jio and Airtel?," *Newsclick*, October 24, 2020. https://www.newsclick.in/Dues-of-Insolvent-Telcos-Is-There-a-Loophole-Favouring-Jio-and-Airtel%3F accessed on 11/10/2022.

51 Yuthika Bhargava, "Six telecom companies under-reported revenues by over Rs 61,000 crore, says CAG in report," *The Hindu*, July 21, 2017. https://www.thehindu.com/news/national/six-telcos-underreported-revenue-by-rs-610645-crore-cag/article19325507.ece accessed on 11/10/2022.

repeatedly challenged this assertion of the private telecom operators. For instance, based on his calculations for the 2014 spectrum auction for the three metro circles, he claimed that the cost of spectrum was *barely 13 per cent* of the gross revenues earned from the telecom services for the operators.[52] To quote him, "What is the problem if companies spend Rs 4 crore on spectrum, when they earn Rs 30 crore per day(?)."

2. Rules Are Only for Breaking

This is not the only issue on which the *norm* is to allow monopoly capital to 'break the rules'. Indeed, rather than private firms being hauled up for breaking the law, it is the rules and regulations which get changed to clear the violations.

Take the debate regarding FDI limits in the telecom sector. Initially the limit for FDI was 49 per cent, but almost immediately private investors began violating this through the holding company structure (as discussed in the second part) and other complex corporate structures. The arrangement helped both international players and Indian promoters flout tax and other regulatory requirements. The response of the Government was to raise the FDI limit to 74 per cent, thereby legitimising 49 per cent foreign holding in both the operating telecom company and the holding company (49 per cent of the remaining 51 per cent brings the holding of the international investor to 74 per cent in all). In fact, one of the key justifications for this change advanced by the then Finance Minister Chidambaram was that it was anyway the norm in practice, so he was only removing the fig leaf and making the illegal legal![53] Similarly, much before the Modi government allowed 100 per cent FDI in 2014, the 74 per cent limits were crossed with impunity, including in the much-debated Vodafone takeover of Hutch Essar in 2007.[54]

52 As all the operators have a portfolio of interests, the AGR will be higher than this for each of them. BK Syngal, "Telecom operators want everything free in the name of consumers, comments Syngal on spectrum auction," *Telecom Tiger*, February 18, 2014. http://www.telecomtiger.com/interviewDetail.aspx?id=69&statusId=3 accessed on 13/10/2022.

53 "Government hikes FDI in telecom to 74%", *Economic Times*, February 3, 2005. https://economictimes.indiatimes.com/news/economy/policy/government-hikes-fdi-in-telecom-to-74/articleshow/1009811.cms?from=mdr accessed on 16/10/2022

54 V Sridhar, "Over the Cap," *Frontline*, May 18, 2007. https://frontline.thehindu.com/the-nation/article30191459.ece accessed on 16/10/2022.

In any case, given the fact that corporate bodies can be bought and sold and can enter and exit the sector at their will, the dividing lines of spectrum limits, licensing for a particular service and/or technology in a particular circle as well FDI limits, etc. – all become practically meaningless. The situation is further exacerbated by the pathetically weak regulatory regime in India when it comes to the oversight of powerful business groups. As BK Syngal commented on the sale of Hutch-Essar to Vodafone:

> It is no mere coincidence that every time the (FDI) cap has been pushed up, share holding has become regularised among these transnational interests and a select group of investors have cashed out… In the disputed transaction that happened outside Indian territory, Li Ka-Shing (of Hutch) took home a neat US$ 11.076 billion, Essar… US$ 5 billion and as a result of the recent FIPB approval we will now see US$ 1.6 billion being shared by Analjit Singh and Piramal... *How much has come into India out of the much touted US$ 18 billion…? Zilch* (emphasis added).[55]

Another appalling case of regulatory violations is the case of the 'Wireless in Local Loop' license for the earlier-undivided Reliance.[56] In 2001 the Government created a new, special sort of license for basic telephony to reach areas that are otherwise difficult to access via cables. This license would allow operators to provide wireless access in the last mile, for instance, remote, hilly areas or densely populated areas such as Chandni Chowk in Delhi. This license was extended to the Tatas and Reliance, who had earlier bought licenses for basic telephony, but had not made any progress in their business plans. With a breath-taking reinterpretation of the license and a bit of reengineering of the receiving instrument, Reliance connected the whole nation through such 'local' loops and provided full-fledged wireless telecom services, like any other operator! The Monsoon Hungama discussed in the previous section followed shortly after.

55 BK Syngal, "Vodafone tax evasion case and its historical FDI pattern is a classical example of crony capitalism," Telecom Tiger, 20/03/2014. http://www.telecomtiger.com/interviewDetail.aspx?id=71&statusId=3 accessed on 16/10/2022.

56 For further details, see: Noah Arceneaux, "'Monsoon *Hungama*' and the 2G Scam: Public interest and mobile spectrum policy in India, 1999–2012," *Global Media and Communication*, 2017, Vol. 13(1), pp. 3–19.

3. Accounting Manipulations

In such a scenario, there is neither competitive pressure nor adequate regulatory oversight in the telecom sector of India. Even company accounts are completely opaque (for the general public), since accounting firms are paid by the very corporate clients they are supposed to monitor. But occasional leaks (extremely rare, no doubt) reveal egregious practices. Reliance Jio started operations in late 2016, and well into mid-2017 it was continuing its 'free' subscription, as we have detailed above. But to everyone's surprise, in February 2018, within months of initiating paid services, it reported profits, and made headlines in the business press.

Asset management firm Sanford Bernstein pointed out that Jio was significantly undercharging the rate of depreciation and amortisation, thereby overstating its profits drastically. Using a depreciation rate similar to its local rivals would have turned Jio's reported profit into a loss of Rs. 2,410 crores.[57] Even by international standards, Bernstein emphasised that Jio was grossly underreporting its depreciation and amortisation costs. While global players were charging an average depreciation at more than 8.5 per cent of their total assets, Jio was charging *a mere 2 per cent*, obviously overstating its bottom-line drastically. In 2019 too, Bernstein estimated that Jio incurred a potential loss of Rs 15,000 crore, but disclosed positive returns based on 'non-standard' depreciation metrics as well as by shifting the huge subsidies on handsets to the books of its sister firm, Reliance Retail.[58]

A particularly damning account of the accounting malpractices of the Indian corporate sector in general, and the telecom sector in particular, is the 2011 report of the Toronto-based equity research firm Veritas on RCom. The report, based on publicly available information, severely indicts the accounting and governance practices of RCom and even the undivided RIL, then the country's largest business house.[59] Unsurprisingly,

57 Bhuma Shrivastava, "Why Jio's first profit is 'too good to believe'," *Qrius*, February 9, 2018. https://qrius.com/jios-first-profit-good-believe/ accessed on 16/10/2022.

58 "Jio Hiding Losses Through Subsidy From Retail Arm: Report," *Newsclick*, February 27, 2019. https://www.newsclick.in/jio-hiding-losses-through-subsidy-retail-arm-report accessed on 16/10/2022.

59 Neeraj Monga & Varun Raj. "Brothers In Arms Misappropriating A Fortune - The Full Version," Veritas Investment Research, Toronto, July 18, 2011. Emphasis added.

the business and mainstream press gave it sparse coverage.[60] It reveals that the promoters manipulated almost every possible accounting parameter to control the country's second largest telecom company on the basis of public money and public resources such as spectrum, with very little of their own money at stake: *"(RCom) is the poster child of everything that is wrong with corporate India, and irrespective of management's assertions about 'values' and 'integrity' in various annual reports, we find no credible evidence of either in its financial statements or those of its former parent, Reliance Industries Limited*." To cite some of the key issues that have been flagged in the report:

- With little actual investment in the capital-intensive business, but with numerous financial and corporate manoeuvres, the Ambani family gained a substantial stake in RCom. According to the report, the family invested a mere 1.3 per cent of the capital required, and yet ended up gaining a 63 per cent stake in the final entity that was listed on the stock exchange in 2006. A significant stake in the telecom business in early years was routed through the undivided corporate entity, RIL; but with the family gaining control over the majority stake, the report estimates that RIL shareholders suffered an egregious loss of more than Rs 25,000 crores.

- The report also demonstrates that through various accounting manoeuvres, RCom inflated its books on a regular basis. It changed the accounting practices from one year to another to suit the outcome, filed expenses at varied places to dress the accounting expenses, understated cash interest expenses via intermingling non-cash foreign exchange gains and losses in some years and excluding those in others, and changing depreciation policies enabling a one-time boost to earnings, etc.

- The report estimates that on a cumulative basis from 2006-07 to 2009-10, the company inflated its normalised profit before tax in the core telecommunication business by close to Rs 11,000 crores, resulting in phenomenal addition to its accounting profits. The Veritas report computes the 2009-10 profits to have been 74 per cent less than what

60 This sparse coverage was accompanied by the usual disclaimers from the concerned firms -- that the report was a conspiracy against them, and that they are following the law of the land, etc.

was reported by RCom.

The important point to note is that the accounting bottom lines are extremely malleable and open to all sorts of manipulations, with little oversight either by the auditing firms or the Government. When the telecom firms want favours from Government bodies, they may make them appear to be in distress; when they want to attract money from investors, Indian or foreign, they may dress up their books and bottom-line accordingly. The latter is the case for Reliance in more than one instance; also, as we mentioned earlier, when firms failed to make provisions for their huge pending AGR dues.

However, these revelations did not result in any investigation of RCom or RIL by regulatory bodies. Rather, Veritas and the individual authors of this report (who had also authored some other Veritas reports on corporate houses in India) were hounded by corporate bodies and the media, and had to face legal cases on themselves.

If corporate firms are able to so completely suborn the regulatory machinery even in relation to shareholders (including institutional shareholders), who are in a much better position to contest their misdeeds than ordinary citizens, one can imagine the fate of the broader public interest.

IV. End Result of Monopoly Capital's Tight Control

Finally, in this section we will discuss four remarkable features of the monopoly capital that has emerged in the telecom industry in India; we will also provide some further evidence for the arguments being made here.

1. State Institutions in the Service of Monopoly Capital

It is striking that the telecom industry in India has come to be controlled by merely three private operators, with one of the three in a very precarious financial condition. The State-owned operator's position has been absolutely marginalised. This implies that just two operators control the bulk of the vast and vital Indian telecom industry. With virtually all the Indian big business houses attempting to get hold of a slice of the industry, in collaboration with some of the largest international telecom players over the years, how did the sector reach this point?

As has been discussed in sections II and III above, all through there have been new players who were willing to sink in increasingly bigger capital, both towards actual investments as well as for undercutting the existing players, to create new markets as well as to capture existing markets. Thus, the stakes in this 'winner takes all' game have risen exponentially over the years. The important considerations for big capital in this cut-throat game have been not only the profits to be made directly from the supply of telecom services, but also the indispensability of telecom for providing critical services, from banking to media to commerce, to the vast population of the country. Thus, once monopolistic control is achieved in telecom, terms can be dictated to many other industries and State agencies, as well as to the final consumer.

Historically there have been many examples of monopolistic control – John D. Rockefeller's control of US petroleum at one time, or the control of the US automobile industry by just three firms in the 20th century, or the overarching control by Wal-Mart in the retail sector in US. Control over telecom services means access to enormous quantities of private data of the vast consumer base. The consumer base accounts for almost the entire population, as people are increasingly compelled to use their cell phones to obtain access to various services. This provides the operators enormous potential for surveillance and control of consumers/citizens of this vast country, as well as for commercialisation of their private data. Moreover, the telecom provider stands to make vastly more from the add-on services (from entertainment to retail trade) than from the basic service. It is these stakes, and not the revenue from telecom services alone, that have driven investments by numerous firms over nearly three decades.

Additionally, in the regime of monopoly capital, even intense and prolonged competition is merely a prelude to consolidation, which is the norm. In India's telecom sector, now that the rivalry has been reduced to a mere three operators, the game has ceased to be 'competitive'. They have been providing each other space, and at times even cooperate with one another to push for common interests.

Schumpeter coined the term 'corespective' system to describe the relationship between the big three auto corporations controlling the US market at the time of World War II: these firms followed a 'live and let live' policy vis-à-vis one another.[61] Thus Reliance and Airtel agreed in 2013 on an arrangement for sharing telecom infrastructure – optical fibres, submarine cable networks, towers, and Internet broadband services.[62] A much starker example of such 'corespective' behaviour can be seen in the price fixing by the three operators towards the end of 2019. Once all the bloodletting had happened after Jio's entry in 2016, and most of the competition had been decimated, the three remaining operators announced substantial price hikes in quick succession. The hikes announced in their plans ranged from

61 Joseph A. Schumpeter, *Capitalism, Socialism & Democracy*, 1994 (first published: 1942).

62 Naazneen Karmali, "Onetime Rivals Mukesh Ambani And Sunil Mittal Ink Telecom Pact," *Forbes*, December 11, 2013. https://www.forbes.com/sites/naazneenkarmali/2013/12/11/onetime-rivals-mukesh-ambani-and-sunil-mittal-ink-telecom-pact/?sh=b9196546a1a4 accessed on 25/10/ 2022.

15 to 47 per cent. Not only was the hike by the three obviously coordinated, reports even suggest that it involved some 'nudging by top echelons in the government',[63] a telling culmination of three decades of the telecom 'miracle'.

The close relation between the State and monopoly capital can be illustrated by the case of Vodafone Idea. At present it is the third largest telecom company, but when it was formed out of a merger in 2018, it had briefly emerged as the largest operator. Competition with Reliance, and its failure to make provision for unpaid AGR and spectrum dues, led to soaring accounting losses and debt for the company in subsequent years. As of March 31, 2022, its debt had mounted to a humongous Rs 1.98 lakh crores, primarily owed to the Government for unpaid AGR and spectrum dues. After the Supreme Court judgment on AGR agreed with the Government's plea, and held the operators liable for paying the dues along with accumulated interest, the media suddenly woke up to the 'catastrophic' possibility that Vodafone Idea might go under, and thus the country might be left with only two operators (or even one!). Experts propounded prescriptions for reviving Vodafone Idea, which principally consisted of the Government doing *karza maafi* (debt forgiveness), in stark contrast to such experts' stance regarding defaults by farmers or small industries. Predictably, the Government came up with a four-year moratorium for the paying of dues, and even agreed to convert the interest owed into equity in Vodafone Idea. Finally, in February 2023, the Government agreed to take up 33 per cent equity. This percentage is even higher than that of either of the errant parents, Vodafone and the Aditya Birla group. Apart from the promoters and Indian media, the UK India Business Council too applied appropriate 'pressure' on the Government, saying that a failure to resolve it "would have negative implications for the... overall investment climate".[64]

We have been told *ad nauseam* that the State has no business in the

63 Deborshi Chaki, Mobis Philipose. "Inside the battle to save Vodafone Idea," *Mint*, March 3, 2020, https://www.livemint.com/industry/telecom/inside-the-battle-to-save-vodafone-idea-11583165208038.html accessed on 25/10/ 2022.

64 Aneesh Phadnis, Abhijit Lele & Surajeet Das Gupta, "Govt gets 33% stake in Vodafone Idea, promoters to invest as well," Business Standard, February 3, 2023. https://www.business-standard.com/article/companies/govt-clears-vi-s-interest-conversion-to-become-largest-single-shareholder-123020301731_1.html accessed on 08/02/2023.

telecom sector (or most other sectors for that matter), and hence it should sell off the telecom public sector units (PSUs). The State has achieved the same end by simply not investing adequately in its PSUs, thereby converting a once-thriving BSNL into a company on its deathbed.[65] And yet such experts have no problems with the Government holding the largest stake in Vodafone Idea. Significantly, Vodafone India has fought a bitter battle over 14-15 years with the Indian government to avoid paying the capital gains tax due after it took over Hutch-Essar,[66] wasting precious public resources and time on lengthy legal battles. Contrast this with the Government's treatment of public sector BSNL. The debt of BSNL is Rs 33,000 crore, not a small amount, but only one-sixth that of Vodafone Idea. While the Government is leaving no stone unturned in facilitating the entry of private operators in 5G services, it is only now belatedly considering allocating BSNL some funds primarily to improve its 4G services.[67]

As the telecom sector gradually gets reduced to two operators, the Government will have no option but to seek their support for extending all sorts of critical services, blurring further the lines between the State and monopoly capital. Take just two more examples in brief. In the New Telecom Policy of 1999, the Government had made provision for the Universal Service Obligation Fund (USOF), by drawing a levy from telecom operators. The purpose was to reach telecom services to un-served, remote and backward areas. Recently, the Government has allocated close to Rs 3,700

65 How systematically successive governments have throttled and marginalised the PSUs in telecom sector needs a separate analysis by itself and is beyond the scope of this article. See the following to appreciate the complex set of issues involved in the decline of BSNL: Nachiket Kelkar, "Can the Centre arrest the decline of BSNL?" *The Week*, April 20, 2019. https://www.theweek.in/theweek/business/2019/04/18/can-the-centre-arrest-the-decline-of-bsnl.html accessed on 12/03/2023, and Sanjeewani Jain, "Wrecking of BSNL to promote private telecom operators", AIFAP, July 25, 2022. https://aifap.org.in/6062/ accessed on 12/03/2023.

66 Rahul Varman, "The Larger Issues Underlying the Claim of Cairn Energy on Air India," rupeindia, June 17, 2021. https://rupeindia.wordpress.com/2021/06/17/the-larger-issues-underlying-the-claim-of-cairn-energy-on-air-india/#more-2172 accessed on 29/10/2022.

67 Erick Massey, "BSNL Revival Package: Will The Government Manage To Save Ailing Telecom Company?," *Outlook*, July 28, 2022. https://www.outlookindia.com/business/bsnl-revival-package-will-the-government-manage-to-save-bsnl-why-bsnl-is-in-losses-news-212570 accessed on 29/10/2022.

crores to Jio and Airtel[68] for reaching 4G services to villages of economically backward districts in several states. In an even more striking development, the largest public sector bank, the State Bank of India (SBI), with its vast reach and resources, entered into a joint venture called Jio Payments Bank (with a majority stake by Jio) on the alibi of reaching rural areas and bringing in 'innovations'.[69]

Though the surviving firms in the telecom industry have become a 'co-respective' system, to use Schumpeter's term, they do compete with one another in certain significant respects: the realm of their competition is *in trying to influence State agencies*. Telecom operators have formed the Cellular Operators Association of India (COAI), an active collective body to lobby for them. Yet they lose no opportunity to lobby State agencies to take sides vis-à-vis one another, and they approach all available forums (tribunals, courts, international arbitration) as well. The State's main role is reduced to taking sides between the warring parties. A second reason for firms to pursue lobbying and litigation is in order to extract concessions from the State, or to avoid paying statutory dues to the State.

Such conflicts continue forever, with disputes moving from one theatre to the next – Department of Telecom (DoT), Telecom Disputes Settlement and Appellate Tribunal (TDSAT), High Courts, the Supreme Court, international arbitration, and so on. There are two standard explanations: either that all these activities are 'corruption'; or alternatively, they are part of the 'democratic process'. Both characterisations are highly misleading. This lobbying is in the very nature of monopoly capital. Here are a few examples:[70]

- Take the infamous Radia Tapes. Telephonic conversations between the political lobbyist Niira Radia and politicians, media persons,

68 3/4th of it to Jio: See "Rs 3.7K cr project given to Jio, Airtel for 4G services in untapped areas," *Business Standard*, May 30, 2022. https://www.business-standard.com/article/companies/rs-3-7k-cr-project-given-to-jio-airtel-for-4g-services-in-untapped-areas-122053001319_1.html accessed on 29/10/2020.

69 For a critical analysis and the problems with SBI-Jio nexus, see: Abir Dasgupta, Paranjoy Guha Thakurta, "Jio Payments Bank and SBI: A Camel Inside A Tent?," Newsclick, 02 Jul 2020. https://www.newsclick.in/Jio-payments-bank-sbi-a-camel-inside-a-tent accessed on 29/10/2022.

70 Some of these have been discussed, even if briefly, earlier; for the rest references are not being given, for the sake of brevity..

bureaucrats, and industrialists which were leaked to the press, perhaps through the intervention of a corporate rival. The conversations centred on the high-stakes telecom industry: the appointment of the telecom minister, how the spectrum dues would be computed, how the legal cases concerning telecom would be fought, matters relating to telecom debated in parliament, the Tatas, the Ambani brothers, Airtel, and other telecom firms.

- The litigations and disputes among the private firms began with the award of the very first licenses themselves in 1992; in fact the litigations against the first award delayed the entry of private operators by three years, till 1995!
- The Vodafone tax dispute is a telling example: The British telecom giant Vodafone refused to pay the mandatory withholding tax in India when it bought the Indian telecom firm Hutch-Essar in 2007. The case went from the Indian income tax authorities to the Bombay High Court to the Supreme Court and finally to international arbitration, under bilateral treaties, including a new provision in the relevant Act by Parliament. Finally the Government of India gave up its claims in 2021, and the matter got settled in favour of Vodafone.
- Even in the '2G scam', the Central Bureau of Investigation court finally ruled in favour of the operators, and since then, several operators have filed claims against the Government in various forums seeking remedy for their purported losses. They have even filed cases against one another due to loss of spectrum and markets.

2. A Chaotic Industry that Is Grossly Wasteful

Given the consolidation in the industry, one would expect that the handful of operators left in the fray would be performing well, and the industry would demonstrate strong financial indicators. But the reality turns out to be exactly opposite. One standard metric for the health of the telecom industry is ARPU – Average Revenue Per User. In 2006, before the 2G scam, in spite of the existence of several operators and fairly well performing PSUs (BSNL and MTNL), the ARPU was Rs 347/ month.[71] From that

71 Nivedita Mookerji, "A telco's call to action," *Business Standard*, September 1, 2021. https://www.business-standard.com/article/opinion/a-telco-s-call-to-action-121090101586_1.html accessed on 3/11/2022.

point the ARPU has been steadily coming down: in 2008 it dropped to Rs 247/ month, in 2011 it was down to Rs 113; after the entry of Jio it went down to Rs 100 in 2017 and fell further to Rs 70 in 2018. And these are the nominal figures; this means that the fall would be even more significant if we account for inflation. The actual user base has risen by three times since 2008, but the fall in ARPU is so steep that the industry is not able to raise its earnings. The industry's net income, EBITDA,[72] fell from Rs 54,000 crore in 2016 to Rs 24,400 crore in 2019.

Such a precipitous fall in industry revenues also has implications for Government earnings from the industry. It was reported that DoT cut its revenue target of Rs 47,305 crore for 2017-18 by a whopping 40 per cent.[73] The prevalent discourse has been that the telecom industry is doubly burdened because of being capital intensive and having to pay unfairly huge tax and spectrum dues to the Government.

Prima facie this seems true. Sunil Mittal, head of Bharti Airtel, complained that in 2021, 35 per cent of the industry revenues went towards State levies, while reports suggest that in 2019, the capital expenditure to sales ratio for the Indian telecom was as high as 50 per cent, against global standards of 17-18 per cent.[74] But the industry experts conveniently neglect to mention the firms' revenues were depressed by their own cut-throat price-slashing tactics (which were pursued with the aim of monopolising the industry, in the process bleeding each other dry). These industry practices have serious implications for the sustainability of their huge public sector bank debts as well. In 2017, banks put the total debt of the telecom sector at around Rs 8 lakh crore, including loans from the Indian banks, overseas borrowings and annual instalments for spectrum bought over the

72 Earning before (deducting for) interest, taxes, depreciation and amortisation: Surajeet Das Gupta, "25 years since the first mobile call: Roller-coaster ride for telecom," *Business Standard*, July 24, 2020. https://www.business-standard.com/article/companies/25-years-since-the-first-mobile-call-roller-coaster-ride-for-telecom-120072301886_1.html accessed on 3/11/2022.

73 "The telecom mess", *Business Standard*, October 9, 2017. https://www.business-standard.com/article/opinion/the-telecom-mess-117100901242_1.html accessed on 3/11/2022.

74 "Telecom capex intensity to see moderation till 5G comes in: ICRA", *Economic Times*, September 26, 2019. https://economictimes.indiatimes.com/industry/telecom/telecom-news/telecom-capex-intensity-to-see-moderation-till-5g-comes-in-icra/articleshow/71318203.cms accessed on 3/11/2022.

previous few years.[75]

In a system driven by Capital, the entire aim of production is to accumulate capital, in the sense of the private wealth of the capitalist class, particularly the monopoly capitalist class in the present context. However, this accumulation process is massively wasteful, as reflected by the financial losses made at different junctures by various telecom firms. Vast sums of money capital disappear without leaving a trace in the form of lasting real assets. It is very difficult to come up with an authoritative, consolidated figure of the scale of waste, given that most of the wheeling and dealing by monopoly capital is behind complex and opaque structures, to which the public have little access. We give below a few examples[76] to provide a sense of the wastefulness of this system:

- In 2017 when Jio doled out extended freebies, Sunil Mittal complained that the move had been a disaster for the existing operators, and that "$40-50 billion (Rs 3-4 lakh crore at present exchange rate) had been written off by various companies."[77]
- When Aircel, at one time one of the important telecom operators, filed for bankruptcy in 2018, banks had to suffer a 99 per cent 'haircut'[78] on Rs 20,000 crore of loans.
- Telenor, the Norwegian public sector telecom corporation, claimed that it lost Rs. 28,000 crores of investment when it decided to leave, after the Supreme Court ruled against the 2008 spectrum allocation in the wake of the '2G scam'.[79]

75 "Bharti Airtel, Vodafone and Idea Cellular reject Reliance Jio's charge on financial stress made at IMG meeting," *Telecom Tiger*, June 17, 2017. http://www.telecomtiger.com/fullstory.aspx?storyid=22606 accessed on 3/11/2022.

76 It is even more striking in a capital scarce country like India. The examples are from a data set created by the author on each telecom operator over these three decades.

77 "How Reliance Jio's Entry…", *op. cit.*

78 Meaning they will get back mere 1 per cent of their loans: Dev Chatterjee, "Aircel lenders agree to take 99% haircut on dues worth Rs 20,000 crore," *Business Standard*, May 17, 2019. https://www.business-standard.com/article/companies/aircel-lenders-agree-to-take-99-haircut-on-dues-worth-rs-20-000-crore-119051701501_1.html accessed on 4/11/2022.

79 Kalyan Parbat & Romit Guha, "It became too competitive for us to make any money in India: Sigve Brekke, CEO, Telenor Group," *Economic Times*, May 17, 2018. https://

- Sistema, Russia's largest publicly held conglomerate, entered the Indian telecom market in 2008 with an investment of $3.6 billion, but quit within 8 years in 2016.[80]
- RCom had a debt of Rs 50,000 crore when it filed for bankruptcy in 2017.
- Repeated initiatives by the powerful house of the Tatas for 22 long years to corner a monopoly position in the telecom industry through various international collaborations, and through several corporate entities, are a striking example of destruction of capital.[81] Apparently, the Tatas have invested around Rs 50,000 crores over the years in their failed telecom ventures. The Japanese firm Docomo bought a 26 per cent stake in one of the Tata telecom entities for $2 billion, and they were the first to launch 3G operations in India in 2010; but Docomo exited in 2014 after suffering a loss of $1.3 billion.[82] Finally, the Tatas decided to throw in the towel and pass on their vast operations and huge setup to Bharti Airtel in 2017 in a 'debt-free cash-free deal'. In 2017 they had close to 5 crore users, with operations across the country. However, after the entry of Jio, their net worth eroded by Rs 12,000 crores within just a year.
- Compare this performance of private capital with that of the public sector. As the Government itself decided to systematically bleed BSNL dry, it has been making losses since 2010. It has made cumulative losses of more than Rs 1 lakh crore in these 13 years (before that it was consistently making profits).[83] While BSNL's performance is

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economictimes.indiatimes.com/opinion/interviews/it-became-too-competitive-for-us-to-make-any-money-in-india-sigve-brekke-ceo-telenor-group/articleshow/64198773.cms accessed on 4/11/2022.

80 "Sistema Shyam gets new Russian CEO", *Business Standard*, April 25, 2013. https://www.business-standard.com/article/companies/sistema-shyam-gets-new-russian-ceo-113042400315_1.html acessed on 4/11/2022.

81 "Bharti Airtel gets Tata Teleservices' mobile unit for nothing: All you need to know about the deal," *Firstpost*, October 13, 2017. https://www.firstpost.com/business/bharti-airtel-gets-tata-teleservices-mobile-unit-for-nothing-all-you-need-to-know-about-the-deal-4138127.html accessed on 5/11/2022.

82 A lengthy legal battle with Tatas ensued.

83 Vignesh Radhakrishnan & Jasmin Nihalani, "Data | How BSNL bled: The story

criticised, and experts call for its sale, there is no such talk about the performance of the private sector; their poor performance is simply attributed to bad Government policies!

Obviously, the chaotic development of the sector has implications for employment, and job losses are regularly reported in the sector. Interestingly, the Government and industry bodies flaunt figures of the fresh employment provided in telecom, but never share figures about job losses, and hence the *net* growth in employment. There are no organised bodies of employees in these new sectors, and one can only get an idea about job losses from sporadic newspaper reporting. A few examples are cited below to give an idea of the scale of job losses involved and careers and lives lost in the process, about which there is a complete conspiracy of silence:

- Apparently there are around 20 lakh jobs in the entire telecom sector across manufacturing of equipment, services as well as infrastructure. During the Covid lockdown 70,000 jobs were lost, not counting the closure of the telecom manufacturing, where 7 lakh were affected.[84]
- But even before Covid-related dislocations, 40,000 jobs were lost in 2017 and 90,000 jobs in 2018 in telecom services itself, most likely due to the entry of Jio and the mayhem that it caused in the industry.[85]
- When Aircel filed for bankruptcy in 2018, it put 30,000 jobs at stake.[86]
- Tata's telecom arm had around 5,000 employees on its rolls when it

behind public telecom giant's fall in 6 charts," *The Hindu*, August 12, 2022. https://www.thehindu.com/data/data-how-bsnl-bled-the-story-behind-public-telecom-giants-fall-in-6-charts/article65758495.ece accessed on 5/11/2022.

84 "COVID-19: 70000 job losses in telecom industry in India," *Economic Times*, May 22, 2020. https://telecom.economictimes.indiatimes.com/news/covid-19-70000-job-losses-in-telecom-industry-in-india/75884075 accessed on 6/11/2022.

85 Anshuman Tiwari, "How the great Indian telecom revolution turned into a tragedy of losses and job cuts," *dailyo*, May 4, 2018. https://www.dailyo.in/business/telecom-industry-spectrum-job-losses-telecom-revolution-idea-cellular-bharti-airtel-reliance-jio-23882 accessed on 6/11/2022.

86 Sindhu Bhattacharya, "Aircel files for bankruptcy: Why consolidation is the way forward for telecom industry," *Firstpost*, March 5, 2018. https://www.firstpost.com/business/aircel-files-for-bankruptcy-why-consolidation-is-the-way-forward-for-telecom-industry-4376761.html accessed on 6/11/2022.

decided to close operations and pass on the infrastructure and subscribers to Airtel in 2017. Most of them were asked to leave on a 'voluntary retirement' plan[87].

- In addition, the public sector firms BSNL and MTNL decided to drastically cut their manpower by offering a 'voluntary retirement scheme' to their regular employees in 2019. They together brought down their employment numbers by close to 93,000, cutting their employee strength by 50 per cent and 80 per cent respectively. Most of those who left were technical employees, affecting the services provided by the two PSUs severely.[88]

One important reason for the low revenues in the telecom industry is the lack of purchasing power of the people in general. The extension of the telecom consumer base has been greatly accelerated by the rapid fall in prices. The other driving force in expanding the consumer base is the fact that telecom has become a necessity for people, as more and more critical services get linked with the mobile, and it becomes one of the only means to bring some certainty in the uncertain life of a by-and-large contingent/migrant workforce in the country, as was so tragically demonstrated during the Covid lockdown.

And yet even these so-called cheap services form a substantial percentage of overall consumer expenditure, given the meagre resources of the masses. Some evidence is available for this proposition. For example, according to the National Sample Survey of 2014-15, of total consumer expenditure on services, mobile services accounted for 11 per cent in rural India, and 12.5 per cent in urban India. Monthly per capita expenditure on communication services in 2014-15 was among the highest of all expenditures on services - Rs 36.35 for rural India and Rs 102.46 in urban areas on an average.[89] Note how high the percentage is and how low the actual

87 'Bharti Airtel gets Tata…', *op. cit*.

88 Megha Manchanda, "BSNL, MTNL users put on hold as voluntary retirement scheme hits service" *Business Standard*, February 24, 2020. https://www.business-standard.com/article/companies/bsnl-mtnl-users-put-on-hold-as-voluntary-retirement-scheme-hits-service-120022300740_1.html accessed on 13/03/2023.

89 NSSO, "Key Indicators of Household Expenditure on Services and Durable Goods," NSS 72nd Round, 2014-15. After 'food expenditure in hotels' and 'transport services', it is the highest expenditure for both rural and urban consumer on a specific service.

amount is! Another example of the low purchasing power of potential telecom consumers is the rise in consumer base when incoming calls were made free of any charge in 2004; as a result of this change, the number of subscribers increased four times within three years.[90]

Note also that, in this system, 'cheap' services come with poor quality. This we can observe all along in this telecom miracle, amply confirmed by personal and other anecdotal experiences. In 2016 the Telecom Regulatory Authority of India (TRAI) reported a call drop rate of as high as 24.6 per cent for 2G services and 16.1 per cent for 3G – this was against their own standard of *less* than 2 per cent![91] In 2018, India ranked 113th in mobile internet speed, with download speeds of 9.14 Mbps, while the global average was 2.5 times that, at 22.2 Mbps. Notably among our neighbours, China was ranked 37th and Sri Lanka 79th on the same metric.[92] A 2023 report in *The Hindu* brings out the fact that broadband speeds are still poor in most of the smaller towns and villages in the country, and lag far behind speeds in the cities, due to lack of investment in telecom infrastructure by the operators – precisely because the non-metro customers do not constitute an attractive market.[93]

While, on the one hand, operators have tried to reach cheap services to more and more consumers, on the other hand, in their drive to undercut one another, not enough investments have been made in the requisite infrastructure; obviously services would suffer. For instance, in 2020, the length of the fibre-based telecom network in India was only 2.8 million kilometres, against the target of 5 million kilometres set by the Government for 2024. Moreover, a substantial 800,000 kilometres out of this is BSNL's

90 '25 years since…' *op. cit*.

91 Prabir Purkayastha, "Claiming Victory in Defeat: The Spectrum Auction Fiasco," *Newsclick*, October 22, 2016. https://www.newsclick.in/claiming-victory-defeat-spectrum-auction-fiasco accessed on 6/11/2022.

92 Prabhakar Thakur, "New Telecom Policy Is Here but What About the Previous One?," *Gadgets360*, August 30, 2018. https://gadgets.ndtv.com/telecom/features/national-telecom-policy-2018-targets-2012-policy-achievements-gaps-analysis-1908692 accessed on 6/11/2022.

93 Aroon Deep, "New broadband definition highlights the plight of India's barely connected "grey spots"," *The Hindu*, February 13, 2023. https://www.thehindu.com/news/national/new-broadband-definition-highlights-the-plight-of-indias-barely-connected-grey-spots/article66500639.ece accessed on 15/02/2023.

investment, and as BSNL has been bled dry, all this public investment will finally end up with private operators. In 2020, achieving the target meant an estimated additional investment of substantially over Rs 130,000 crores. Not surprisingly, in India only 32 per cent of towers have been fiberized, in comparison to more than 75 per cent in China.[94]

3. Overarching Logic of Monopoly-Finance Capital

As we have mentioned before, telecom business requires very high fixed costs, while the marginal cost of serving an additional customer is fairly low. Thus a large consumer base is essential for drawing the advantage of economies of scale.[95] Moreover, telecom services for the consumer are an undifferentiated 'commodity'; the only differentiation that service providers can offer is in the price. Therefore, all along, there has been overwhelming pressure to cut prices and gain market share.

If this is the case, then how do operators make money? We can see a four-part pattern here:

1. As we have already said, one overarching motivation appears to be able to gain pre-eminent market power; this would provide control over the pipeline for providing many essential services, as well as data that can be monetised.[96]

2. In part II we have also seen that many operators exited while making speculative gains on their investments, in particular on the licenses and spectrum that they had cornered through Government allocations and auctions.

3. Another important means appears to be, as has been discussed especially in Part III, to get increasing Government concessions and 'freebies'.

4. Beside the above, the surviving operators appear to be also in the

94 Muntazir Abbas, "Fiber deployment critical for quality of service, economic benefits: Telecom, infrastructure companies," *Economic Times*, November 13, 2020. https://telecom.economictimes.indiatimes.com/news/fiber-deployment-critical-for-quality-of-service-economic-benefits-telecom-infrastructure-companies/79208500 accessed on 6/11/2022.

95 The high fixed costs get distributed over a larger base.

96 This needs a full-fledged separate analysis and hence has not been developed in this article.

business of financialisation of their respective businesses and investments, that is, making money out of monetary assets, independent of whatever is happening to their actual telecom operations. We elaborate on this aspect in this subsection.

Let us take the example of Airtel, who were the early entrants in the industry. A Bharti Airtel share had a price of Rs 12 in 2002, but by 2022 it rose to Rs 760, an appreciation of more than 60 times in 20 years. Sunil Mittal, the main promoter of the firm and first generation entrepreneur, has become one of the wealthiest persons in India, with a net worth close to $15 billion.[97] How wealth can be created from financial manipulation, and how Airtel has done it, is brought out in some detail by a draft report of the CAG in May 2015. For instance, the report brings out how financial wealth worth more than Rs 44,000 crore was created by mere corporate restructuring and transferring assets back and forth from one entity to another during 2006-10. The report explains how Airtel spun off several of its divisions and created subsidiaries to which assets were transferred at book value (i.e., the original cost of these assets minus depreciation). These subsidiaries then revalued the assets at the market price, which was much higher than the book value. After two or three years, the subsidiaries were re-merged with the parent company, creating 'wealth'![98] A somewhat similar manoeuvre of 'wealth creation' by RCom through mere restructuring was discussed in Part III (section 3), as revealed in the Veritas Report.

No less remarkable is the massive interest that international finance has come to have in the largest private operator in India, Reliance Jio. The parent company of Jio, Reliance Industries, floated an in-between holding company in 2019, Jio Platforms Ltd. (JPL), in order to control Jio Telecom and other digital initiatives of the group that will ride on their telecom network. In an extraordinary sequence of events, in April-June 2020, a series of 11 investments were made in JPL, in quick succession, by big international finance and tech companies. Thus, JPL raised around Rs 1.1 lakh crore by selling over a fifth of its ownership stake, with an 'astound-

97 "India's 100 Richest People," https://www.forbes.com/india-billionaires/list/#tab:overall accessed on 8/11/22.

98 P. G. Thakurta and A. R. Ghatak, "What Lies Behind the Incredible Rise and Rise of Bharti Airtel." *The Wire*, August 6, 2015 https://thewire.in/economy/what-lies-behind-the-incredible-rise-and-rise-of-bharti-airtel accessed on 20/12/2022

ing' valuation of 165 times of its EBIT.[99] Facebook (now Meta) bought 10 per cent of JPL shares for $5.7 billion, Google invested $4.5 billion, while other investors included Qualcomm, American investment company KKR, Mubadala (the Abu Dhabi state investment arm), the Saudi sovereign wealth fund, and several other influential international investors. Before this series of investments, the Reliance group had a huge overhang of debt. But by selling almost 30-32 per cent of the JPL stake in a space of a few months, it raised $20-22 billion from big tech and international finance and cleared its debts. Remarkably, the bulk of these investments were made while India was reeling under the Covid-19 pandemic and was in the midst of an absolute lockdown.

Airtel and Jio are only two important instances of financialisation of the telecom services and investments. But given the extent of India's dependence on foreign knowhow and the huge capital involved in acquiring it, international finance is involved in every step of the game:

- To begin with, even in conducting the spectrum auction Government agencies have sought the expertise of international bodies. For the 3G e-auction in 2010, it was reported that the house of Rothschild and consultants DotEcon provided advice to the Government.[100]
- As most of the equipment is of foreign origin, equipment purchase is generally done through supplier's credit that is financed by export credit agencies of manufacturers' home-countries.
- Most of the foreign investments in the sector have been to buy existing companies (or shares in existing companies), and not to make fresh investments. Even acquisitions by one operator of another have involved big finance. Operators regularly leverage their shares to acquire bank funds for acquisitions, rather than bringing in fresh equity.[101]

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99 Generally, a valuation-to-earning ratio of 10 is considered to be 'healthy' in finance circles. For details on the series of investments in JPL and their analysis, see this story: Abir Dasgupta, Paranjoy Guha Thakurta, "Is Reliance's Rights Issue Over-Valued?," *Newsclick*, May 20, 2020. https://www.newsclick.in/Reliance-Industries-Limited-Rights-Issue-Mukesh-Ambani-Facebook-Jio-Deal accessed on 8/11/22.

100 Alok Kumar, "3G Spectrum Auctions in India: A Critical Appraisal," *EPW*, vol xlvi, no 13, March 26, 2011, pp. 121-129.

101 'Claiming victory in defeat…', *op. cit.*.

- Operators facing financial stress have often resorted to financialising their infrastructure, for example, selling off cell towers to real estate and financial interests, and then rehiring the towers on rent. It was reported that 2/3rd of the 4 lakh cell towers of the four big operators in 2017, Bharti, Vodafone, Idea and RCom, were up for sale. They were bought by international financial and real estate firms such as KKR, ATC and Brookfield.[102]

- International private equity has been a major participant in the telecom sector. For example, Warburg Pincus invested $292 million in Airtel between 1999 and 2001, and made $1.83 billion when it left in 2004 and 2005, thus earning an extraordinary return of 5.5 times on its investment in merely five years![103]

4. Woeful Dependence on Foreign Know-how

India's telecom industry is often flaunted as the 'second largest telecom market' in the world. And yet it is rarely mentioned that it has little to show in terms of indigenous capabilities. Most tellingly, we have lost even the limited technological capabilities which were built in pre-1990s' telecom sector, primarily in the public institutions such as the Indian Telephone Industry (ITI) and Centre for Development of Telematics (CDoT). Further, in spite of three decades of telecom sector under the leadership of big private capital, India has miserably failed to make any progress in catching up with the industrialised nations. On the contrary it has fallen way behind even China, which had been at a similar level of technological capability in telecom in the 1990s.

Precisely because of lack of the required know-how in cellular telephony, and with the idea that India would be able to catch up under the

102 Surajeet Das Gupta, "260,000 towers up for grabs as telcos look to repay debt and boost network," *Business Standard*, November 4, 2017. https://www.business-standard.com/article/companies/260-000-towers-up-for-grabs-as-telcos-look-to-repay-debt-and-boost-network-117110400059_1.html accessed on 10/11/2019.

103 Raghavendra Kamath, "Airtel DTH exit a blip in Warburg Pincus' blockbuster India story," *Business Standard*, February 20, 2021. https://www.business-standard.com/article/companies/airtel-dth-exit-a-blip-in-warburg-pincus-blockbuster-india-story-121022000020_1.html accessed on 10/02/2023.

leadership of big private capital, foreign collaboration was a requirement right from 1992, when the first licenses were granted. But beyond lip service, the establishment had no real agenda to pursue an independent path whereby India would become technologically capable at any point of time. All along, the policy framework was hijacked by the short-term calculus of the private players. One example: often manufacturers of even something as rudimentary as handsets complained that the duty structures that the government pursued were rather 'inverted', where raw materials and intermediate goods had a higher duty structure than finished goods, and thus it was cheaper to import 'made in China' stuff and sell it in India rather than trying to invest in manufacturing facilities and/or R&D institutions with all their uncertainties.[104]

The true state of India's telecom sector manufacturing and its technological prowess in general is reflected in the state of indigenous mobile handset manufacturers. All along, every single policy pronouncement talked about encouraging indigenous capabilities, especially as the Indian telecom market was becoming progressively larger. Anywhere you look, advertisements, hoardings, sponsors, ecommerce are dominated by mobile phone brands. And yet, despite the huge demand base, Indian manufacturers have all but disappeared. This reflects the reality of Indian monopoly-finance capital, and that of Indian State policy.

The presence of Indian brands in the handset market is shockingly low today, as low as 1 per cent. They have been over taken predominantly by Chinese brands[105] such as Xiaomi, Realme, Vivo, Oppo, etc., along with the Korean brand Samsung. Each of these hold substantial market share in smartphone market, which has come to dominate the industry in value terms. Even the feature phone market, now only 5 per cent of the mobile phone market, is dominated by international brands such as Itel, Samsung and Nokia. At various points of time, Indian brands such as Lava, Micro-

104 Prabir Purkayastha, "NTP 2011: Yesterday's Scam as Policy Today," *Newsclick*, October 20, 2011. https://www.newsclick.in/ntp-2011-yesterdays-scam-policy-today accessed on 10/11/22.

105 In terms of volumes, Chinese brands occupied a staggering 99 per cent market share. See: Krishna Veera Vanamali, "How did Chinese smartphones wipe out Indian brands?," *Business Standard*, January 19, 2022. https://www.business-standard.com/podcast/current-affairs/how-did-chinese-smartphones-wipe-out-indian-brands-122011900113_1.html accessed on 11/11/22.

max, Intex, iBall and Karbonn have occupied some space in the market. But their story is similar to that of the telecom services industry: the Indian handset firms have entered with the limited agenda of making quick profits and cornering Government incentives. In the process each of them has lost to international competitors and ended up leaving the market or becoming insignificant. Three decades down we have almost no presence in the handset market, let alone in the market for relatively high-tech switching and network gear, where we are completely dependent upon international vendors, as we will briefly discuss below.[106] In its 13th Report to the Parliament, the Standing Committee on Information Technology on the Ministry's Demand for Grants for 2019-20 voiced its distress in the following words:

> India had imported telecom equipment worth… Rs. 1,41,168 crore in 2017-18 and Rs. 1,24,992 crore in 2018-19. China remains the number one country from where India is making the maximum import. The Committee feels that the import of telecom equipment will increase substantially with the introduction of newer technology like 5G and desires to know why the Department have made no plans to develop 5G indigenously (emphasis added).[107]

Ever since the talk began of rolling out 5G services, the head of the Reliance group, Mukesh Ambani, has claimed on many occasions that they were going to use 'indigenous', 'in-house' technology. The Finance Minister, Nirmala Sitharaman, even claimed that India is ready to supply indigenous 5G technology to the world. But as yet no hard evidence has emerged for these claims, whether in terms of expenditure on R&D, filing of any patents, or manufacturing base for the network equipment.[108]

106 Such handset manufacturing plants as India possesses belong largely to foreign brands. These do not develop any indigenous capabilities, as their facilities are a black box, protected further by the global IP regime.

107 Quoted in: E A S Sarma, "5G Spectrum – Is it a distress sale? CAG may look at it carefully," *Countercurrents*, 13/08/2022. https://countercurrents.org/2022/08/5g-spectrum-is-it-a-distress-sale-cag-may-look-at-it-carefully/ accessed on 11/11/22.

108 Surajeet Das Gupta, "How ready is India to sell indigenous 5G technology globally? Jury's out," *Business Standard*, October 18, 2022. https://www.business-standard.com/article/companies/explained-how-ready-is-india-to-indigenous-5g-technology-to-the-world-122101801143_1.html accessed on 11/11/22. The article reports that both Jio and the Tatas are trying to develop indigenous 5G technology, but there is no clarity about the

A study reported that during 2000-2015 period almost all the patents filed related to mobile technology in India were by the foreign companies and *none* issued to any Indian company.[109]

In any case, as the roll out of 5G services has begun, it is reported that both Airtel and Jio have been sourcing the equipment, combined with the knowhow for putting together the network, from the standard global suppliers – Samsung, Ericsson and Nokia (the Chinese have been excluded by policy of the Indian government). In fact, Jio's 4G network was outsourced to Samsung, so it is a mystery how they claim to be suddenly leapfrogging into putting together a 5G network. A short Appendix discusses some more aspects of the claims regarding sourcing of 5G technology by the Indian monopoly capital as well as the policy makers.

Leapfrogging in the race for technology requires a long-term policy and close collaboration between State institutions and firms, and long term investments, particularly in R&D, as most of the know-how is locked up in intellectual property rights (IPRs) that the international corporations are extremely unwilling to part with. That this is not an impossible task, especially for a resource-rich nation like India of sub-continental proportions, can be best illustrated through a brief discussion of the Chinese example.

China has been able to make huge strides in indigenous telecom technology in the same two to three decades since India embarked on telecom expansion under the leadership of big private capital. In China's case, the role of State institutions and policy has been the key, even if some of the development was carried out under the private sector. Unlike India[110], China leveraged its vast markets to compel foreign firms to provide access to state-of-the-art technology, and to ensure transfer of technology and manufacturing hardware. Moreover, the leading role was reserved for the public sector, and the largest of the telecom service providers in the vast country

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timeline; at best these may supplement the existing imported technology in a few areas. In the absence of the deployment of this technology in India, it is difficult to understand how it is ready to be supplied to the world.

109 Sunil Mani, "Developing India's Mobile Phone Manufacturing Industry," *EPW*, Vol LV, No. 19, pp. 50-57, May 9, 2020.

110 This should make us seriously question the commonly held idea that, the vast reach and pace of telecom development in India would not have been possible but for under the leadership of the big private capital.

even today work under the government sector.[111]

The developments in Chinese telecom are reflected in the remarkable rise of Huawei. It came from nowhere and had no background in sophisticated technology of any sort beforehand, like much of the Indian capital in telecom. Huawei was founded in 1987 by a Red Army engineer, Ren Zhengfei, as a trading company, which began trading in telecom switching gear in early years. But in a mere two decades it became a central actor in global telecom manufacturing and technological development. That has been the reason for all the geopolitics around Huawei, since telecom is a strategic sector with huge security implications. In 2018, its revenues were more than $100 billion annually. It was the largest telecom equipment producer and the second largest smartphone maker in the world, with 180,000 employees and operations in 170 countries. Even the envious and unsympathetic western press has had to grudgingly admit the remarkable rise of Huawei, and report on its unique 'culture' and other unusual features such as the nature of its ownership – founder Zhengfei retains only a 1.4 per cent stake in the company, and the rest is distributed among 81,000 employees, no doubt a motivating factor for its employees' efforts.

Among global tech companies Huawei has one of the largest R&D expenditures, at $13 billion in 2018, with 80,000 working only for R&D.[112] Perhaps its massive R&D expenditure is the key to its rise. Between 2002 and 2010 it opened 57 company-owned innovation centres across the globe, each specialising in a specific domain. By 2015, the number of international patent applications submitted by Huawei reached a record 2,180,000, and they owned over 35,773 patents.[113] *Wall Street Journal* had to admit in 2018 that merely a fraction of the semiconductor components inside Huawei's top-of-the line P20 smartphone came from US suppliers. Contrast any of these features and developments with the best of Indian

111 Sandeep Hasurkar, "A tale of two policies," CNBCTV18, Aug 11, 2021. https://www.cnbctv18.com/economy/a-tale-of-two-policies-telecom-economic-reforms-china-vs-india-10333811.htm accessed on 13/11/22.

112 Dan Strumpf, Min Jung Kim and Yifan Wang, "How Huawei Took Over the World," *The Wall Street Journal*, December 25, 2018. https://www.wsj.com/articles/how-huawei-took-over-the-world-11545735603 accessed on 13/11/22.

113 B. Joseph, "The Company that Apple is Frightened by: Huawei," Medium, August 12, 2018. https://medium.com/swlh/the-company-that-apple-is-frightened-by-huawei-e897ec1bc564 accessed on 13/11/22.

capital, not only in telecom, but, for that matter, in any sector.

Huawei's emergence would not have been possible without a whole ecosystem and its priorities and constraints, in contrast to the particular type of monopoly-finance capital that has come to corner the vast Indian telecom market and its priorities. A small anecdote reported by the *Harvard Business Review* illustrates the priorities of Huawei and its leadership: when Stephen Roach, chief economist for Morgan Stanley, wanted to visit the Huawei headquarters in Shenzhen with the intention of investing in the company, Zhengfei declined to give him an appointment. A disappointed Roach commented, "He was rejecting a team with $3 trillion." And Zhengfei retorted, "He is not a customer,"[114] meaning that his priority was not to cosy up with US finance capital.

At present there is talk that India is about to leapfrog into global manufacturing, and will finally realise the aim of an '*atmanirbhar bharat*' (self-reliant India). Last year the Government announced a $10 billion incentive to global semiconductor manufacturers for India to become a player in the chip-making global supply chain. It has announced a Rs 2 lakh crore Production Linked Incentive (PLI) scheme in 2020 across a number of sectors to incentivise 'domestic' manufacturing. In the 2019 Union Budget the Finance Minister had announced a drastic cut in corporate taxes (estimated at Rs 1.5 lakh crores) to incentivise corporate sector investments. Global semiconductor manufacturers such as Foxconn and Taiwan Semiconductor Manufacturing Company (TSMC), global telecom equipment manufacturers such as Samsung, Nokia, Ericsson, and Flextronics, global mobile handset manufacturers such as Apple (through its three contract manufacturers) and Samsung, as well as several Indian (e.g. Tata, Vedanta) and global corporate groups across several industries, are availing of these 'incentive' schemes.[115] The establishment propagates the view that this will

114 David De Cremer & Tian Tao, 'Huawei's Culture Is the Key to Its Success," *Harvard Business Review*, June 11, 2015. https://hbr.org/2015/06/huaweis-culture-is-the-key-to-its-success accessed on 13/11/22.

115 Raghuram Rajan, Rohit Lamba and Rahul Chauhan show that the PLI scheme may be merely subsidising assembly operations of multinationals like Apple in India without significant value added in India; in fact, once the very substantial repatriated profits and royalties to Apple are subtracted, the net foreign exchange earning for India would be even lower. "Are Government Freebies Under PLI Scheme Truly Necessary to Enhance Manufacturing in India?". *The Wire*, January 24, 2023. https://thewire.in/economy/freebies-pli-scheme-manufacturing accessed on 14/03/2023.

somehow enable India to leapfrog stages of development and become 'another China'.

It is not for the first time that Indian and international big capital are being incentivised to propel India into the ranks of the industrialised nations. But there is little analysis of what has not worked in the past. The telecom sector is considered an outstanding achievement of India's three decades of economic reforms under the leadership of monopoly capital. As we have seen, the sector's actual achievements in developing domestic capabilities are meagre, the expansion of the consumer base has come at the cost of a range of large State subsidies, often hidden, and the sector remains dependent on foreign firms and tied to international finance capital. 'More of the same' – leaving things to monopoly capital and providing it more and more 'incentives' – is likely to produce more of the same results.

V. Conclusion

In conclusion, let us summarise the key points that have been raised here:

1. It cannot be disputed that telecom is one essential service, though perhaps the *only* service, that has reached a vast proportion of the Indian people, and at mostly an affordable price. A basic argument that is being made in this article is that we need to look at the hidden costs of that 'cheap' price. We have amply brought out that there are multiple costs of that cheap telecom service that we need to consider.

2. First, the cheap price is at the expense of massive unpaid Government dues. All sorts of Government dues, from spectrum and license fees for decades and interest that has accrued on it, to tax payments, by now totalling lakhs of crores, remain unpaid by the surviving as well as defunct telecom companies. This has been discussed in some detail in this article. Combine this with the costs of breaking or not following multiple rules and regulations related to FDI, licensing, spectrum allocation, etc. as well as egregious accounting practices of the operators, which make it impossible for any sort of regulation and accountability to work, throughout the three decades of growth of telecom in private hands. While the public may not be paying these costs directly as telecom consumers, they end up paying for all this as taxpayers. Moreover, a significant part of such growth of private telecom in the country has been funded by PSU banks, thus indirectly once again by the people of the country. As many of these loans turn bad, while companies close and go bankrupt with massive unpaid debts, the public ends up paying (through the recapitalisation of public sector banks

from the Union Budget, or through banks making provision for – in effect, writing off – bad debts). So what is touted in the mainstream as a sharp public-private divide and some sort of largesse by, and success of, the private sector, actually has a large share of the cost being borne by the State, public sector banks and finally the common people of the country. A recent estimate by credit rating agency ICRA says that telecom sector has a debt of Rs 6 lakh crores, much of it either in the form of unpaid State dues or to the PSU banks.[116]

3. Importantly, related point is that while the bottom-line of the telecom companies may not show much profits in all these years, there has been plenty of money to be made in the telecom sector. Hence an important point is to differentiate between the operating profits of the corporate entities and the fabulous money being made by the promoters of these enterprises. First and foremost, as we demonstrate here, there have been large sums of money to be made from cornering and speculating in telecom licenses and coveted spectrum. Then there are large sums to be made through finacialisation and finding buyers for the corporate assets, whether they be other corporate houses, global telecom companies and/or international finance. Part of the process is that many of the Indian promoters stake as little of their own money as possible, while making quick returns out of speculation in the assets cornered, as well as through financialisation and accounts manipulation.

4. Predatory pricing is very much part and parcel of the tactics that monopoly capital uses to cut through the competition. So, at times it may undercut the prices to gain market share; once the competition has been decimated, it may reap rewards of monopolisation through higher prices. We can see numerous instances of predatory pricing in these three decades of private telecom's endeavour to capture market share. But now as the competition has been practically wiped out, the remaining three players are very much in the process of cartelisation and price hikes, as we demonstrated in the latter part of this article. Furthermore, we should not lose track of the fact that a corporate house like Reliance can draw on its monopoly profits in one industry to undercut prices in

116 Muntazir Abbas, "Telecom industry's debt to rise to Rs 6 lakh crore: Analysts," *Economic Times*, August 2, 2022. https://economictimes.indiatimes.com/industry/telecom/telecom-news/telecom-industrys-debt-to-rise-to-rs-6-lakh-crore-analysts/articleshow/93300561.cms?from=mdr accessed on 18/02/2023.

another. Note that Reliance has been reaping fabulous profits in the oil and gas sector and has all along been involved in bitter disputes with the Government agencies to get ever higher gas prices from the KG basin, while they have been willing to give 'free' SIMs to all and sundry in order to capture market share and undercut competition in telecom.

5. This process of monopolisation and financialisation is very wasteful too, with many of the largest of the telecom entities having been closed, or merged with their competitors, or gone bankrupt. These closures, mergers and bankruptcies have led to enormous loss of resources and productive assets, as well as loss of jobs and careers in a country like India, where regular jobs are so difficult to come for educated youth.

6. Telecom is a strategic industry that is likely to become (if it has not already become) a platform over which a host of essential services are provided, and hence not merely a tool for 'communication'. Media and organised retail are already largely accessed through mobile phones. Even more importantly, banking and finance, education and health are increasingly being promised to be delivered online. So the revenues for the telecom service provider are not going to come only from the final consumer of telecom, but from a host of such service providers too, giving the surviving telecom firms' outsized power and influence over the people and the economy, and enabling the extraction of monopoly profits.

7. With telecom becoming such a vital part of our daily lives and two or three companies controlling this pipeline or platform, two further developments need to be noted that have enormous implications for us as citizens, though we have not taken them up for discussion here for lack of space. The first is access to and control over our private data, as we use the phone for communicating, commuting, purchasing goods and services, so on and so forth. Given the very lax regulatory apparatus, increasingly our daily lives become visible to private operators for surveillance as well, enabling the telecom companies to profiteer by 'monetisation' of our vital personal data. Secondly, as the State and telecom corporations actively collaborate to surveil our lives, this significantly affects our privacy, freedoms and rights as citizens, as was brought out in recent surveillance of important human rights defenders using Pegasus spyware.

8. These developments will also have a significant bearing on our entitlement to critical services. As we have shown, the quality of connectivity itself leaves much to be desired - an aspect that is lost amid the din about the 'cheapness' of telecom services. Further, as the establishment gears up to provide vital services like banking, education and health through our phones, a massive divide will be created. Only the well-heeled will have physical access to education and health; the rest will have to get access through their phones. But what education and health is possible without proper access to good teachers and doctors? Though, for lack of space, this new divide has not been discussed in this article, it is another serious curtailment of our rights in the offing, through the use of 'cheap' telecom.

9. Finally, in spite of Indian monopoly capital having been given an almost free hand and massive resources, Indian telecom remains thoroughly dependent on foreign knowhow, and has come increasingly under the control of international finance. After three decades of expansion of the telecom sector with the backing of the State, the Indian telecom industry has been able to develop hardly any capabilities in manufacturing either network gear or even handsets. Thus, despite the shrill sloganeering by the establishment about *atmanirbharta* (self-reliance), Indian telecom is almost completely dependent for telecom hardware and know-how on firms from the industrialised countries, including China. Further, the three remaining large telecom operators have increasingly also come under the sway of international finance, as has been discussed in this article.

10. Many observers would like to believe that at present, with inarguably the most friendly regime in place for big capital in post-Independence India, the provision of more and more incentives to monopoly capital will enable India to turn over a new leaf in industrialisation. They believe it is India's turn to catch up with the 'West', using the methods of Germany under Hitler, or South Korea under the dictatorship of Park Chung Hee, or China after the Dengist turn, depending upon their preferences. But the record of three decades of the telecom industry is a severe indictment of all such rhetoric and sloganeering.The Indian telecom industry remains dependent on foreign interests, unlike Chinese telecom, a latecomer, comparable in size – let alone South Korea and other industrialised nations. This failure is despite the Indian tele-

com industry receiving large subsidies from the Indian people, in so many ways. If anything, India's telecom experience is a stern warning to all thinking people in the country to look beyond the rhetoric and bluff of the establishment, and examine the actual reality. Only then can there be any possibility of progress for the vast population of this subcontinent.

Appendix
Rollout of 5G and Consequences of Technological Dependence of India on Foreign Monopoly Capital: Two Recent Examples

As discussed in Part IV, both business leaders and policy makers at the highest levels claimed that they have developed 'in-house', 'indigenous' technology for 5G services, and that they would be in a position to export the technology soon. However, the actual rollout of 5G services in recent months has seen the Indian telecom sector become *even more* dependent on foreign monopoly capital. We provide two examples here and discuss them very briefly to argue our point.

1. Narrowing Options for Acquiring 5G Equipment and Knowhow

We live in the times of monopoly capital, when strategic sector after sector is tightly controlled by a handful of global companies, who do everything to protect their territory, whether through IPRs, branding, or other aspects of their economic might. If none of these works, they use the political pressure (combined with military might) of the governments of some of their 'home' countries. Tech sectors such as telecom are particularly tightly controlled by multinational manufacturers of equipment and providers of knowhow.

The most important recent entrants in the global telecom arena have been the two big Chinese companies, Huawei and ZTE. One reason they have been able to capture significant global markets is because they are willing to work at lower prices and on easier terms, for instance, longer payment schedules.[117] (Note that monopoly capital firms are price makers,

117 An Oxford Economics study commissioned by Huawei estimated that banning Huawei from India's 5G equipment market would raise costs by 8-29 per cent. See Economic Consulting Team, Oxford Economics, "The Economic Impact of Restricting Competition in 5G Network Equipment," December 17, 2019, https://www.oxfordeconomics.com/resource/economic-impact-of-restricting-competition-in-5g-network-equipment/. In earlier generations of equipment, Huawei prices were reported to be up to 40 per cent lower, see: Regina Mihindukulasuriya, "Many countries have blocked Huawei, but India can't afford to ban it from its telecom story", *The Print*, December 27, 2018. https://theprint.in/

i.e., they dictate prices, as has been amply demonstrated in this article.) In India, Huawei and ZTE have been the most active suppliers of equipment and knowhow for various telecom companies over the last two decades.

Meanwhile, strategic tensions between China and the US have escalated, because the US increasingly looks at China as a serious economic, political and strategic rival. India too has been drawn progressively into these tensions on the US side, and there have been growing clashes between Chinese and Indian forces on the line of control between the two countries. So as companies like Huawei are being boycotted and blocked by the Western nations, there is also pressure on India to follow suit. Thus India too has blocked Huawei and ZTE. But there is one big difference between India and the West: the West might have its own indigenous tech suppliers, whereas we have *none*. The consequence has been that, as Airtel and Jio rollout 5G services, the same three equipment companies, Ericsson, Nokia and Samsung are reported to be supplying equipment to *both* of them in multi-year, multi-billion dollar contracts. (While Samsung is not reported to be involved in Jio's 5G services, it has been the main supplier for its 4G services.) Thus *two* telecom service providers are to serve the vast Indian 5G market and just three global corporations are to supply complementary equipment to *both* of the service providers: Such is the state of the free market, competition and indigenous in-house technology in India.

It is true that, in recent years, large Indian corporate houses such as Reliance and the Tatas have acquired small tech companies working in specific niches of telecom. Putting together a large, complex and sophisticated telecom network not only needs switching and radio equipment, but also various kinds of software and network that can 'talk' to one another at multiple levels: from phones to the network, transmission through the network and even from the company's network to the networks of other companies within the country and beyond. Thus, besides global telecom companies, there are many smaller technology suppliers operating in niche markets of telecom. A couple of such niche firms engaged in software development for telecom, such as Radisys of the US and Tejas Networks based in India, have been acquired in recent years by Reliance and the Tatas.[118] Note that

economy/many-countries-have-blocked-huawei-but-india-cant-afford-to-ban-it-from-its-telecom-story/169813/ accessed on 21/03/2023.

118 'How ready is India…' *op. cit*.

even these tech companies have been only *acquired*; nothing therefore was developed in-house by the likes of Reliance. It is quite a stretch to say on this basis that 5G network is being indigenously developed by them.

It cannot be ruled out that the US firms Google and Qualcomm, who have invested in Jio, might be helping Jio develop 5G technology in-house, but as yet no evidence for this has come to light. Historically virtually every large global company has been present in India, but that has not resulted in the development of indigenous technological capabilities.[119]

2. Strange Case of Vanishing 'i' in the 5Gi Standards[120]

An even starker example of dependence is India's very first attempt to set up an indigenous telecom standard, called 5Gi ('i' here stands for India). It captured the media headlines suddenly, but then as quickly disappeared from all public discussion. As telecom has become a mass consumer service in this vast, densely populated and very poor country, extending sophisticated, cutting edge, telecom services comes with its own challenges. Imported technologies generally have been developed elsewhere for specific needs and contexts (mostly of the developed Western economies), and come coupled with their own limitations. But no nation today can say that it would or can develop everything by itself. Hence, to that extent, one terrain of battle concerns the setting up of the global standards that are to be followed. Because, depending upon the standards followed, certain

119 Another domain where a lot is being said for a while about 'indigenous technology' is the military supplies, and despite all the rhetoric, India remains the largest importer of military hardware in the world. For underlying structural reasons for this gap, see: Rahul Varman, "Rising Corporate Military Complex in India: A Critical Appraisal," *Aspects of India's Economy*, No. 61, June 2015. https://rupe-india.org/61/rising.html accessed on 15/03/2023.

120 For some details on the developments around 5Gi, see: Alan Weissberger, "Nokia Executive: India to Have Fastest 5G Rollout in the World; 5Gi/LMLC Missing!," *IEEE ComSoc Technology Blog*, November 27, 2022. https://techblog.comsoc.org/2022/11/27/nokia-executive-india-to-have-fastest-5g-rollout-in-the-world-5gi-lmlc-missing-in-action/ accessed on 15/03/2023. For the telecom firms' point of view, see Arjun Gargeyas, "What Should India Hope to Get Out of its 5Gi Standard Experiment?," *The Wire*, August 15, 2021. https://thewire.in/tech/what-should-india-hope-to-get-out-of-its-5gi-standard-experiment accessed on 15/03/2023. For further details, see the references provided in the two articles.

technologies would get locked in, conferring an advantage to certain corporate players and disadvantage to certain others.[121]

The Indian government announced with much fanfare in 2020 that its proposed standard '*5Gi*' had been accepted by the International Telecommunication Union (ITU), a UN body, for the purpose of setting up 5G services. The standard had been developed by a consortium of researchers across public institutions, and funded primarily by the Government over several years. The idea was to develop technology that specifically catered to Indian needs of reaching the vast countryside at a reasonable price. Using the standard and its technological protocols, it was claimed that the technology could reach out to far-flung villages at lower costs.[122] The Telecom Standards Development Society of India (TSDSI) got the 5Gi standard approved by the ITU through a three-year process, reported to be rigorous. It was the first such standard devised by India that was granted any such approval by the UN body.

But since India, as we have discussed in this article, is so dependent on foreign know-how and equipment suppliers, any such new standard can be implemented only if the Government can enforce it on both the equipment suppliers and the buyers, that is, the Indian telecom companies. Immediately after the announcement of the new standard with much fanfare, the pushback by both the Indian telecom companies as well as their global suppliers began – that this will mean more costs and more time, that it is impractical, that its enforcement should be 'voluntary', etc. Finally, when the Prime Minister inaugurated India's 5G services in October 2022 with much fanfare, the 'i' in the 5Gi had already gone missing in action. In the intervening two years it was reported that the 5Gi standard had been 'merged' with 5G, with little disclosure of the content of this 'merger', or

121 A good example of this battle in India is the rivalry between GSM and CDMA standards and mobile technology in the 1990s. While the early entrants followed the European standards of GSM, later entrants like (undivided Reliance and Tata) tried to set a parallel course through American standards of CDMA. In the process later players lost out, and had to undertake a course correction. In spite of being backed by India's largest business houses, one reason both of them had to close shop was that they bet on the 'wrong' set of technologies and standards.

122 While 5G standards specify that the networks shall provide satisfactory service to users travelling at speeds of 120-500 km/hour, 5Gi standards proposed to provide satisfactory service for users travelling at speeds of 3-30 km/hour. The latter was deemed adequate for the Indian context.

discussion of its larger implications. The ground reality is that global 5G suppliers are cutting deals worth billions of dollars with Indian companies at present as if no 5Gi had happened in the intervening period.

It would be naïve to think that the development of any new technology, including the establishment of new standards, can happen overnight, that too in a cutting edge area like 5G telecom. It would require a willingness to take risks, invest in long-term projects, look for returns over time, and face opposition from entrenched domestic and foreign interests. But as we have seen in this long account of three decades of telecom in India, in spite of the skills and talent of India's people and the continental size of this most populous nation in the world, the Indian State and India's own peculiar form of monopoly capital lack the will to overcome technological dependence. Thus the missing 'i' in 5G is a glaring example of the yawning gap between the pretensions of our establishment and the reality. The end result: *far from providing indigenous 5G technology to the world (as the Finance Minister claimed), India is not even providing it to its own people.*